



City of Sandy

Agenda

City Council Meeting

Meeting Location: Online via Zoom

Meeting Date: Monday, June 15, 2020

Meeting Time: 6:00 PM

Page

1. MEETING FORMAT NOTICE

The Council will conduct this meeting electronically using the Zoom video conference platform. Members of the public may listen, view, and/or participate in this meeting using Zoom. Using Zoom is free of charge. See the instructions below:

- To login to the electronic meeting online using your computer, click this link: <https://us02web.zoom.us/j/87268786379>
- If you would rather access the meeting via telephone, dial 1-669-900-6833. When prompted, enter the following meeting number: 872 6878 6379
- If you do not have access to a computer or telephone and would like to take part in the meeting, please contact City Hall by Friday June 12 and arrangements will be made to facilitate your participation.

2. CITY COUNCIL WORK SESSION - 6:00 PM

2.1. Facilities Assessment & Space Needs Analysis

[Facility Assessment & Space Needs Analysis - Pdf](#)

3 - 67

3. CITY COUNCIL REGULAR MEETING - 7:00 PM

4. PLEDGE OF ALLEGIANCE

5. ROLL CALL

6. CHANGES TO THE AGENDA

7. PUBLIC COMMENT

PLEASE NOTE: There will be separate opportunities for members of the public to comment during the public hearings later in the agenda.

The Council welcomes your comments on other topics. Please see the instructions below:

- If you are participating online, click the "raise hand" button and wait to be recognized.
- If you are participating via telephone, dial *9 to "raise your hand" and wait to be recognized.

8. CONSENT AGENDA

- 8.1. City Council Minutes 68 - 97
[City Council - 01 Jun 2020 - Minutes - Pdf](#)

9. NEW BUSINESS

- 9.1. Ordinance 2020-11: Approving Annexation of One Property and Right-Of-Way
 Totaling Approximately 6.42 Acres and Assignment of Single Family Residential (SFR)
 and Parks and Open Space (POS) Zoning in Conformance with the Urban Growth
 Boundary Expansion in File No. 20-002 UGB 98 - 275
 Written testimony received prior to 5:00 PM on June 15, 2020 will be posted [here](#).
[20-001 ANN/CPA ZC - Gunderson Road & Parkland - Pdf](#)
- 9.2. Ordinance 2020-14: Amending Section 15.28 of the Sandy Municipal Code Related to
 System Development Charges 276 - 278
[Changes to Section 15.28 Sandy Municipal Code - Pdf](#)
- 9.3. Resolution 2020-15: Adding Gunderson Road and Olson Street to the City's
 Transportation System Plan Capital Improvement Plan 279 - 284
[Updates to the Transportation Capital Improvement Plan - Pdf](#)
- 9.4. Ordinance 2020-13: Amending Chapter 17.78 of the Sandy Municipal Code Related to
 Annexations 285 - 326
 Written testimony received prior to 5:00 PM on June 15, 2020 will be posted [here](#).
[20-010 DCA - Annexations - Pdf](#)

10. REPORT FROM THE CITY MANAGER

11. COMMITTEE /COUNCIL REPORTS

12. STAFF UPDATES

- 12.1. [Monthly Reports](#)

13. ADJOURN



Staff Report

Meeting Date: June 15, 2020
From: Tyler Deems, Finance Director
SUBJECT: Facility Assessment & Space Needs Analysis

Background:

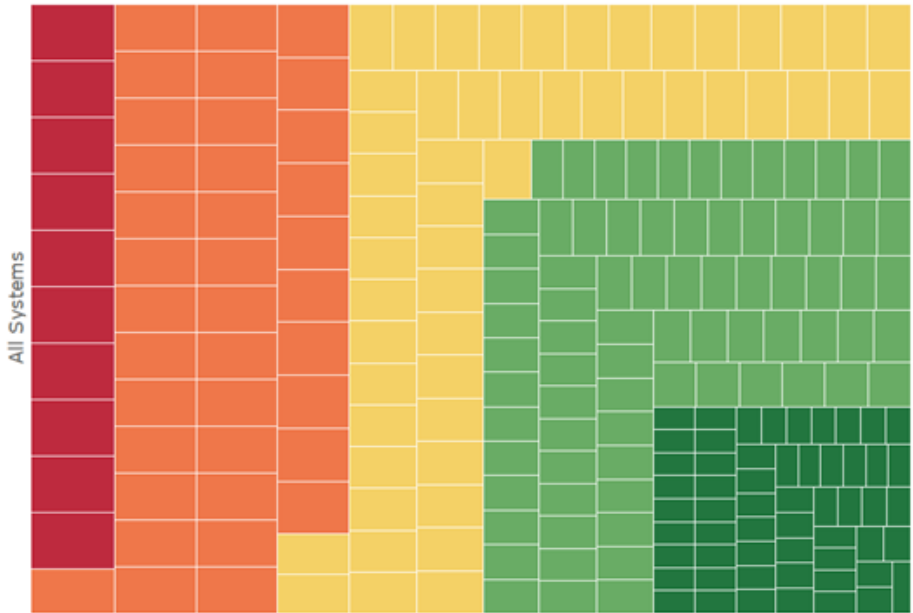
In August 2019 the City entered into a contract with McKinstry to provide a comprehensive facility assessment and space needs analysis. The intent of this project was to gain a better understanding for the current state of repair of all city buildings, current deficiencies in space, and begin to develop a long range capital improvement plan (CIP) to ensure that staff have adequate space and buildings are maintained. McKinstry, with the help of Soderstrom Architects, interviewed staff at each location, and did an exhaustive analysis of all mechanical systems, building interiors and exteriors, and provided a matrix to easily show which items should be addressed first. Attached is the final report from Soderstrom for your review.

It was identified that the City has 242 assets throughout ten buildings, ranging from exterior items such as roofing and siding, to interior items such as HVAC and plumbing. Each asset was rated on the following criteria:

- Asset Condition
- Building Impact
- Constituent Rating
- Remaining Life (estimate)
- Replacement Cost (estimate)

The sum of these scores were compiled and entered into an easy to read matrix, which is shown below:

Asset Count	Number of Bui..	Avg Score	NPV/Nominal ..	Est Remaining..
242	10	2.4	\$10,053,635	14.3



The total cost of all maintenance and repairs that are anticipated to keep assets in good working order total \$10,053,635 over 30 years.

Overall, the majority (144) of the City's assets are in great or good condition. There are 47 assets which need significant repair or need to be replaced entirely. These assets include:

- City Hall - windows, security cameras and alarm, plumbing, roofing, and gutters.
- Library - security cameras and alarms.
- Police - HVAC system.
- Annex Building (SandyNet) - boiler, water heater, windows, air handler, exhaust fans, and electrical panel.
- Operations Center - HVAC system, fire alarm panel, windows, and garage doors.
- Community Center - HVAC system, security cameras and alarm, windows, roofing, and gutters.

While the list of immediate repairs may seem daunting at first sight, this provides finance and administration staff the framework to begin drafting an updated CIP for future budgets. Now that maintenance, repairs, and replacements are identified, staff will be able to develop a financial plan for addressing each asset to ensure that it is properly cared for and receives the attention that it needs prior to failing.

In addition to a review of each asset, a space need analysis was conducted to better understand where additional space is needed throughout the city. In this area of the project, meeting with each department director was crucial in identifying the current staffing levels, appropriate staffing levels for current needs, and future staffing levels ten years from now. The following table displays a summary of square footage for city buildings:

Department/Building	Current Space (SF)	Needed Space (SF)	10 Year Projection (SF)
City Hall	7,600	7,355	9,072
Library	11,500	17,328	21,692
Police	8,180	9,224	10,765
Community Services	8,615	12,150	15,078
Operations Center	4,065	8,057	9,684

The total current space deficit is 14,154 square feet. The 10 year projected space deficit is 26,331 square feet. What this means is that the City is in desperate need of more space to accommodate current and future staffing levels, as well as current and future programming needs. The Annex Building, including SandyNet offices, are not included in these numbers, as our consultants spent their time identifying how that building could be used for the city as a whole, not on specific SandyNet requirements.

The following tables displays a summary of the staffing (FTE) requirements for each department:

Department/Building	Current Staff (FTE)	Needed Staff (FTE)	10 Year Projection (FTE)
Development Services	7.33	8.33	11
Administration/Finance	6	8	10
Library	13	15	16
Police	19	20	23
Public Works	12	13	14
Transit	3	4	5
Community Services	5	8	10

The total current FTE deficit is 11. The 10 year projected FTE deficit is 24.33. Neither of these figures include an estimate for SandyNet staff, as the current and future staffing levels were used to determine future space needed, which was not determined in this analysis, as noted above.

With the information that staff now has, we will be able to able to draft a comprehensive CIP to address the current and future needs of city buildings. The CIP will be included in the next budget document, and the information that we now have will be used to address more immediate needs in the near future.



Soderstrom Architects

Facilities Assessment Report
City of Sandy Facilities
Sandy, Oregon



1200 NW Naito Parkway Suite Number 410 | Portland, OR 97209 | sdra.com

April 6, 2020

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EXECUTIVE SUMMARY

Introduction to City of Sandy Facilities

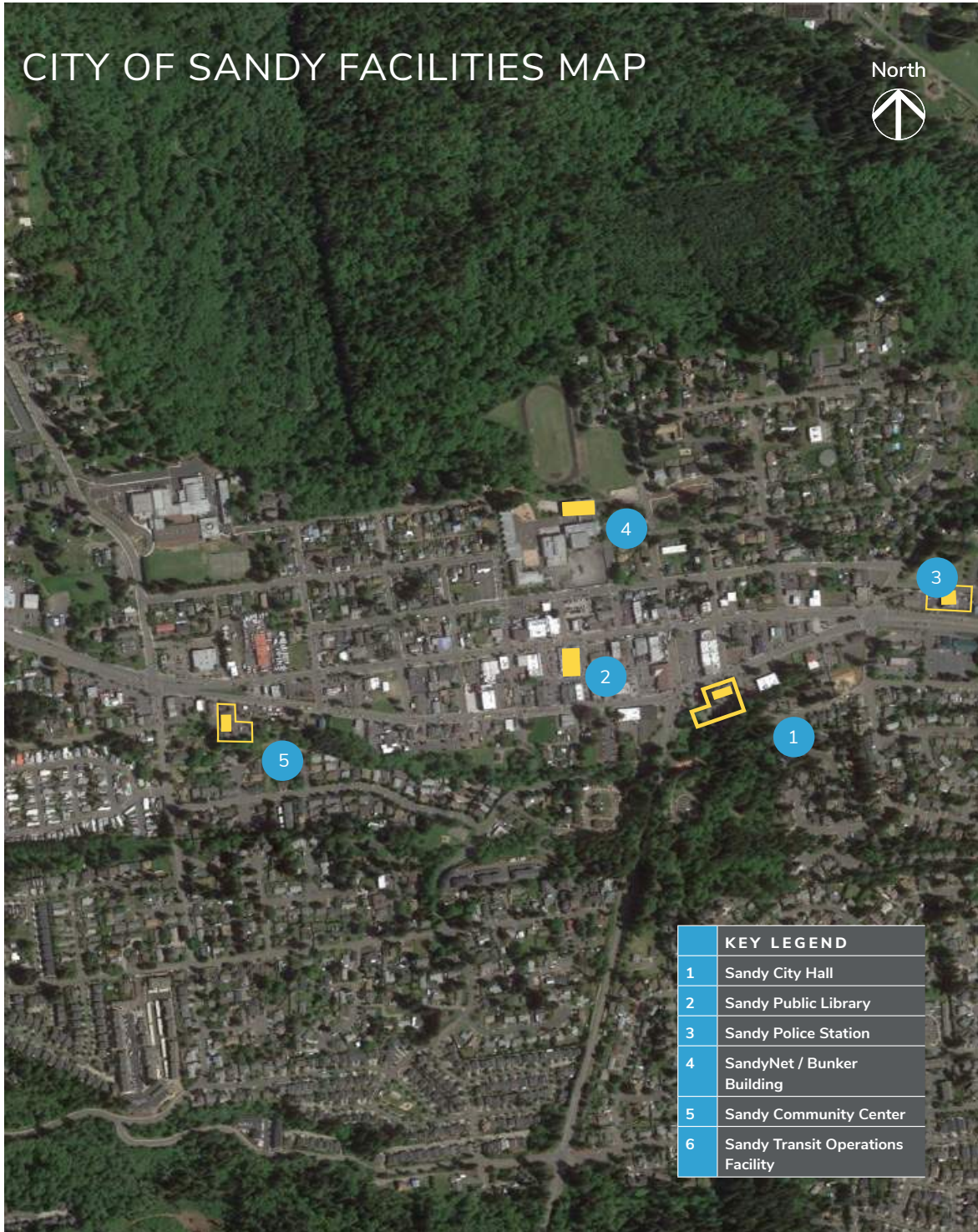
The City of Sandy has hired McKinstry in collaboration with Soderstrom Architects to provide an analysis of its existing building stock, including Sandy City Hall, Sandy Public Library, Sandy Community Center, Sandy Police Department, Sandy Transit Operations and Public Works Facilities, and “The Bunker Building” — also currently known as SandyNet headquarters.

The purpose of this study is to determine:

- The current condition of each building, its major architectural components, its major mechanical and operating systems, as well as a life-cycle replacement and maintenance schedule with cost analysis for each system.
- Major building deficiencies including areas of critical damage and non-code-compliant conditions.
- The anticipated growth and spatial planning needs of each department, and to identify areas of optimization and areas of opportunity between departments in order to meet their future growth needs.
- Current assignable square footage compared to anticipated future needs and to identify opportunities for accommodating current needs and future growth.



CITY OF SANDY FACILITIES MAP



KEY LEGEND	
1	Sandy City Hall
2	Sandy Public Library
3	Sandy Police Station
4	SandyNet / Bunker Building
5	Sandy Community Center
6	Sandy Transit Operations Facility

CITY OF SANDY FACILITIES MAP



KEY LEGEND	
1	Sandy City Hall
2	Sandy Public Library
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4	SandyNet / Bunker Building
5	Sandy Community Center
6	Sandy Transit Operations Facility





PIONEER BLVD

SANDY
CITY HALL

SANDY CITY HALL

39250 Pioneer Blvd, Sandy, OR 97055

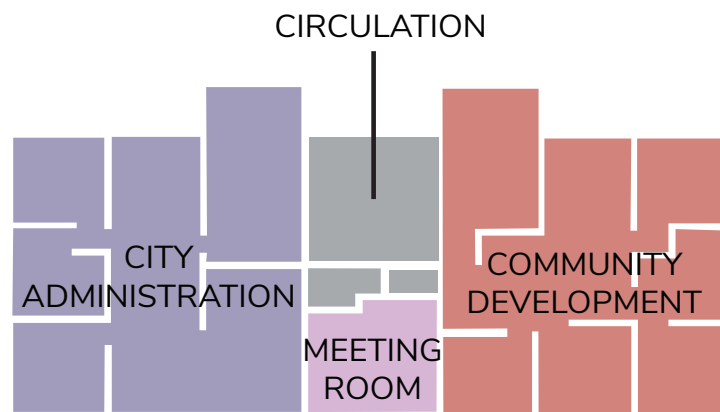
Year Built: 1969

Approximate Gross Area: 7,600 sf

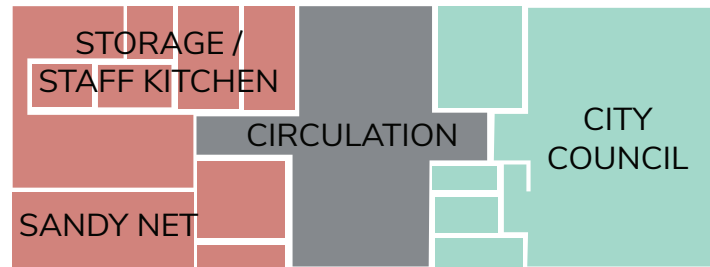
Approximate Footprint Area: 3,800 sf

Construction Type: Type VB (wood construction - non-fire-rated)

Sprinklers: Non-Sprinklered



UPPER FLOOR



LOWER FLOOR

EXISTING FACILITY OVERVIEW

SANDY CITY HALL

BUILDING SYSTEMS ASSESSMENTS

ROOF:

Low slope roof areas: Built-up bituminous roofing system with mineral cap sheet. Last re-roof date is unknown. The roof membrane is in fair to good condition; however, the low slope roofs over the entry vestibules have had significant leaking problems and need to be replaced. Sheet metal flashing is in good condition. Expected remaining service life of 5 to 8 years (replacement between 2025 and 2028). Required maintenance includes cleaning the roof and overflow drains routinely and removing organic deposits and other debris.

Mansards and other sloped roof areas: Standing seam metal roof. Last re-roof date is unknown. Roof system has recently been painted and is in good condition. Expected remaining service life is 20 years (replacement approximately 2040). Required maintenance includes possible repainting to prevent corrosion, as well as maintaining clean gutters and downspouts.

EXTERIOR SIDING:

The exterior cladding is a combination of wood shingle, wood lap siding, natural stone masonry, and poured-in-place concrete. Wood and concrete surfaces have recently been repainted. Siding on the south facade was replaced in 2019. Natural stone is clean and well maintained. No immediate issues were observed. All materials are in good condition.

All painted surfaces will need to be repainted on a periodic schedule of 10 years. Provided repairs are made when needed and paint integrity of wood surfaces maintained, the expected remaining service life is 20 to 30 years (replacement between 2040 and 2050).

Maintenance requirements include cleaning on a 5-year cycle, repainting on a 10-year cycle, and sealant replacement on a 10-year cycle.



Main entry on Pioneer Blvd.



Exterior siding on south facade



Low operable window in west facade is a potential safety hazard

SANDY CITY HALL

WINDOWS:

Windows are a combination of aluminum frames with single pane glass and vinyl frames with thermal glass units. All windows are in good condition overall. No water infiltration was noted or reported. Windows on the south side of the building have been recently replaced with new vinyl windows and are anticipated to be on the same life cycle as the original aluminum windows.

The life expectancy of both the new and the original windows is 25 to 30 years. Replacement of the new vinyl windows should be anticipated in 2050.

The original windows do not meet current energy code and should be scheduled for replacement as soon as budgets allow. In addition, there are instances of low to the floor operable windows that do not meet the fire / life / safety code and are a potential liability to the City of Sandy. There is also reasonable assumption that glazing in older doors, adjacent vision panels, openings within 18" of floor level and adjacent egress paths are not glazed with code-required safety glazing. This is also a liability to the City.

While the south facing windows are in good condition, their orientation presents the problem of an overabundance of light, glare, and heat gain during summer months. This is currently mitigated with blinds, which means visibility to the outdoors is reduced, energy efficiency is not achieved since light is still required via electrical lighting, and heat gain through windows is not reduced.

Options for thermal and light transmittance performance of south-facing glazing:

- Plant tall deciduous trees in front of the south facade to shade the windows in summer and allow light to filter through in winter.
- Add shading devices that would block direct solar radiation and potentially bounce light to the ceiling where it would light the space more evenly and further back into the building.
- Replace glass with a higher performance thermal unit or add window film to reduce visible light transmittance and solar heat gain.



South Facade



Main parking lot on south side of building.



Lower parking lot at west of building in disrepair.



SANDY CITY HALL

The aluminum storefront windows in the front of the building are in good condition and glazed with thermal glass units. The estimated service lifespan is 20 to 30 years if well maintained. Replacement is anticipated in 2040 to 2050.

Typical window maintenance includes washing yearly, and replacing or maintaining sealant every 10 years.

SITE:

In general the site is in good condition. Landscaping has been well maintained, and concrete in the entry area was replaced within the last few years. A new stairway at the west side of the building was also incorporated within the last several years. The main parking lot is in good condition with a few minor cracks. The lower parking lot to the west, however, is in poor condition and needs to be repaved if this area is needed or used for parking.

Handicap accessibility and security are the main issues with the site at City Hall. Currently the main entry and reception areas are accessed primarily from Pioneer Boulevard where accessible parking is not available. This means people with accessibility requirements need to use the back parking lot and enter through the back where there is no staffed control point or visual monitoring; therefore, if assistance was required, they are likely to be unattended.

SECURITY:

City Hall is currently lacking systems for security and access control. This is an issue particularly on the lower floor where there is no access control, monitoring or visual observation. This floor is open to the public with an on-grade entry to the back of the building. It is frequently used by the public for restrooms and water filling and is commonly occupied by visitors but not by staff. The potential for loss of or damage of property or risk to visitors in this area should be considered and could be mitigated through several different means.

Access control to the storage areas, staff areas, SandyNet and Council Chambers in the lower level will consolidate the public and the main circulation areas. Addition of a staffed reception desk at the lower entry would provide screening and oversight but comes at the expense of an additional full-time employee.



The wooden handrail is not in compliance with current code for handrail height, or width of the grip.



Restroom stalls in lower level do not meet ADA width requirements.



Potentially challenging ADA circulation in this area.

SANDY CITY HALL

Adding door access control with remote latch release, cameras with monitors in staffed areas, and an intercom system or audio alert provides another approach which allows monitoring from main level reception desks or other staffed areas.

The administrative offices and planning department offices have staffed entry points for visitor screening. Adding additional access control at main department entry doors would provide additional security by limiting access to staff and pre-screened or accompanied visitors.

The building currently has a legacy alarm system. Depending on the level of security desired, this could be replaced to prevent break-ins or provide alerts after hours or during times of minimal staffing.

ADA COMPLIANCE:

The building's entries and general circulation comply with ADA regulations. Door pull forces were not measured, but regular testing and adjustment should be part of a periodic maintenance program. If doors cannot be brought into compliance with push/pull force requirements, power assist mechanisms should be added to the three public entries

At the top of the wheelchair lift, a person in a wheelchair would most likely have to do a number of complicated maneuvers in order to gain entry to one of the lobbies, since the doors open inward on approach.



ADA ramp slope is too steep and does not conform to current code.



Single-height drinking fountain in lower hallway needs to be dual-height to meet ADA criteria.



Breakroom is also used for storage of files / documents.



Storage boxes piled up on floor of hallway. Loose folders on open shelving indicate better storage system / area is needed.

SANDY CITY HALL



Non-ADA compliant staff restroom.



Stacked boxes indicate the need for better storage area / system.

The current wooden handrail at the main stair does not meet code regulation for handrail height (needs to be 34" to 38" tall), and the rail itself is wider than allowed by the code. This stair also requires a 42" tall guardrail with maximum opening size of 4." In order to reduce potential liabilities, it is recommended that the guardrail and handrail be replaced to meet current building codes.

Lower level restrooms are not ADA compliant. Neither restroom provides a stall with adequate maneuvering area for a wheelchair. The drinking fountain in the lower hallway is also not in compliance with ADA. A dual-height fountain is needed to meet the requirements.

The ramp at the entry to the Council Chambers room appears to be too steep to meet current ADA code. It is recommended that the ramp be re-profiled or sign added indicating that it is not compliant.

The main level restroom is in conformance with ADA guidelines.

Any future building remodel will require spending a minimum of 25% of construction costs to bring the existing space into compliance with current ADA code, per Oregon Revised Statute 447.241

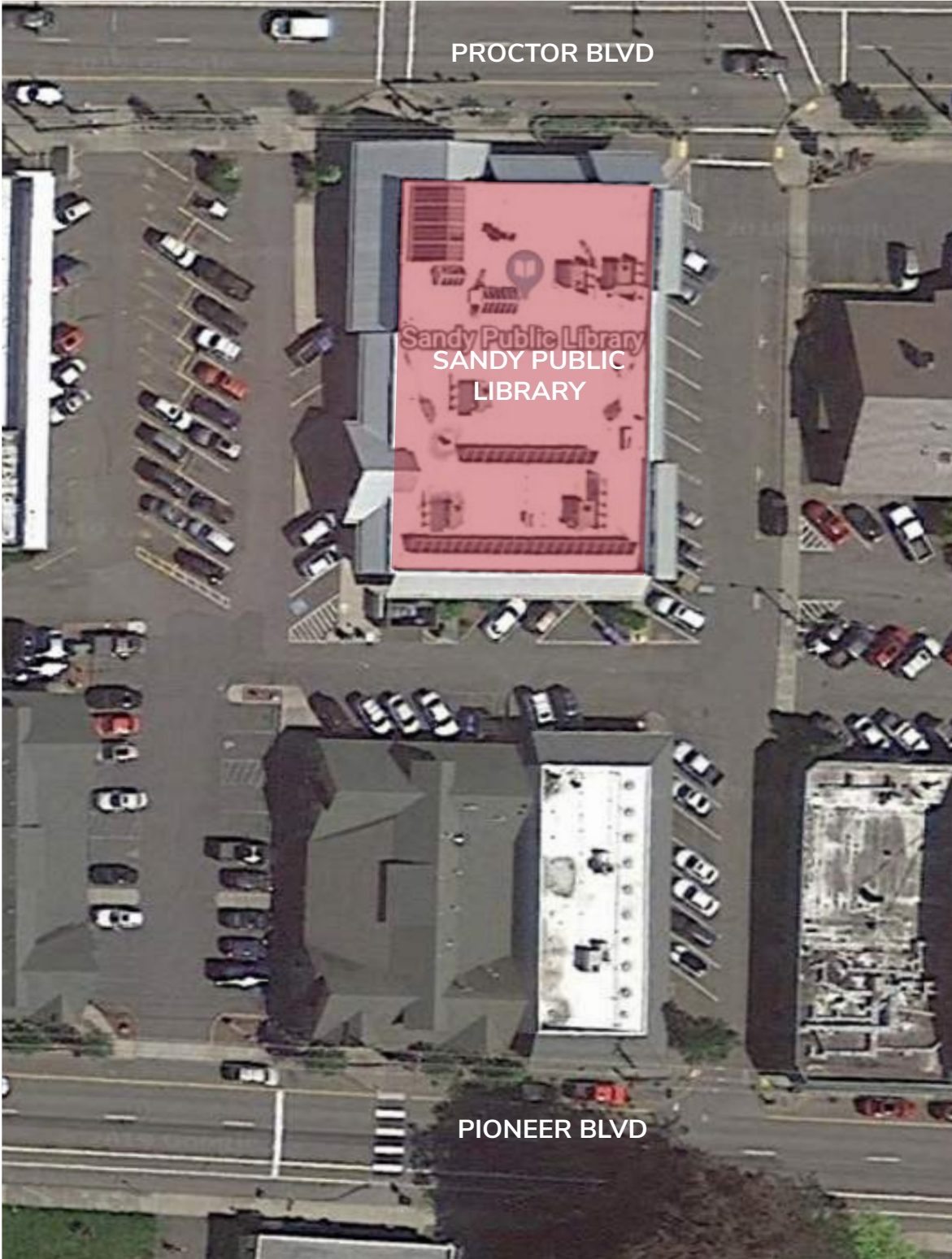
OTHER NOTED ISSUES:

In staff discussions, it was remarked that a shower would be desirable in the lower level restroom — currently located in the former holding cell area. The concrete holding cells can be removed; structural modifications would likely be required. This would create space for additional restrooms, staff amenities, and storage area, and an opportunity to consolidate space in the northwest corner of the lower level.

The former holding cells and the adjacent hallway are currently being used to store records from the planning department. These areas indicate the need for a better, more accessible and organized storage area. Removal of the holding cells would create an opportunity for consolidation of storage.

SEISMIC LOAD CAPACITY:

Evaluation of seismic and lateral load capacity was not part of this study. It is recommended that prior to any significant renovations or additions, this evaluation be performed to establish the extent of required work to bring the building's structure to current regulation requirements.



SANDY PUBLIC LIBRARY

38980 Proctor Blvd, Sandy, OR 97055

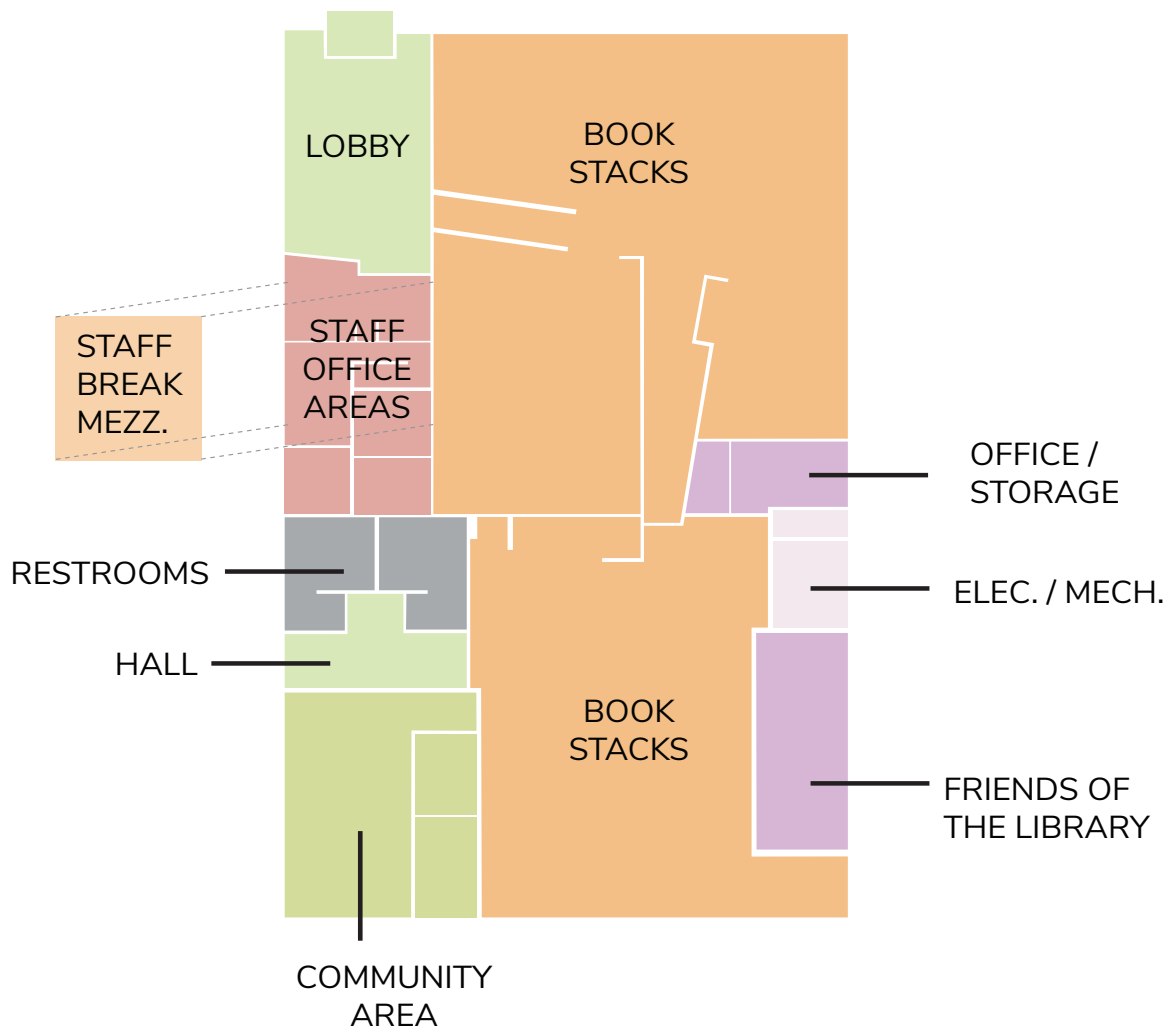
Year Built: 2012

Approximate Gross Area: 11,500 sf

Approximate Footprint Area: 11,050 sf

Construction Type: Type VB (wood construction - non-fire-rated)

Sprinklers: Non-Sprinkled



EXISTING FACILITY OVERVIEW

SANDY PUBLIC LIBRARY

BUILDING SYSTEMS ASSESSMENTS

ROOF:

The low slope roof areas have a single-ply roof system that appears to be TPO or PVC, which was installed during the new construction of the Library in 2012. It is in good condition, with no signs or reports of leakage. Its estimated lifespan is 20 years from the date of installment, giving it an approximate replacement date of 2032. No major issues were noted.

The mansards and sloped roof areas around the perimeter of the building are a standing seam metal roof system installed new during the 2012 construction. All standing seam roof areas are in excellent condition. The anticipated service life is 50 years under normal conditions, giving it an estimated replacement date of 2062.

Recommended maintenance would be yearly cleaning of roof drains and gutters, repair and replacement of any damaged or failing flashing, replacement of any exposed sealant joints every 10 years, and installation of walk pads at all locations noted to have regular foot travel for maintenance of roof drains and roof top equipment.

EXTERIOR SIDING:

The exterior siding is a combination of stone masonry at the base of the building with stucco siding above, and wood accent panels in a few select areas, such as the entry. These systems are in good condition. Both the masonry and stucco are anticipated to have a lifespan of around 40 years. Maintenance and repair over their lifespan will be required as the local climate freeze / thaw patterns are likely to promote some cracking over time. Overall these systems are not likely to require a high amount of maintenance if they have been properly detailed and constructed. Estimated replacement will be 35 to 40 years for stucco (2055 to 2060).



Wood elements at the Library entrance are likely to need refinishing and maintenance more often than other exterior elements.



Mezzanine Break Room area is inaccessible to disabled staff.

SANDY PUBLIC LIBRARY

The masonry should be cleaned at a minimum of every 10 years to remove any biological growth and surface contamination. It will likely need to be repointed at the time of stucco replacement.

Wood exterior siding, wood columns and structural elements on the exterior will also need regular maintenance. The wood accent siding and exposed wood structure should be resealed every 10 years. Some light checking on wood columns has already been observed.

Structural bolts and plates on the heavy timber elements will need to be examined and tightened over time, especially if they are directly exposed to the elements. Exposed metal plates and fasteners need to be monitored for corrosion. If corrosion occurs, they should be cleaned and repainted.

WINDOWS:

The windows are of various types, mainly aluminum-clad wood and aluminum storefront. They are all in good condition. They are glazed with thermal glass units and should have a lifespan of approximately 30 plus years. The wood storefront at the main entry will likely need refinishing at a maximum of every 10 years. Some light water staining has already been observed in this area.

SITE:

The Library is situated in a central area of the city, surrounded by parking and other commercial buildings. The parking lot is relatively small for the needs of the Library and sees heavy use. High traffic combined with weather cycles and stud tires, which are in use by many drivers during winter months, are likely to create a need for repaving on frequent cycles. The current paving is in fair condition, but the parking lot will probably need repaving within 10 years.

ADA COMPLIANCE:

Both interior and exterior circulation and all staff and public areas appear to be ADA compliant. The one exception is access to the mezzanine level staff lounge which is only accessible via stairs. There is not a "staff only" equivalent on the main level.



Parking at the Library is in high demand. Spaces are often used by neighboring commercial businesses.



Main lobby entrance of the Sandy Public Library.



BUNKER BUILDING / SANDY NET

38955 Pleasant St, Sandy, OR 97055

Year Built: Unknown

Approximate Gross Area: 25,500 sf

Approximate Footprint Area: 12,750 sf

Construction Type: Assumed to be Type I or II. Concrete columns, floors, roof deck, and walls. Floor and Roof structure were observed as poured in place one-way concrete slab and beams

Sprinklers: Not sprinklered

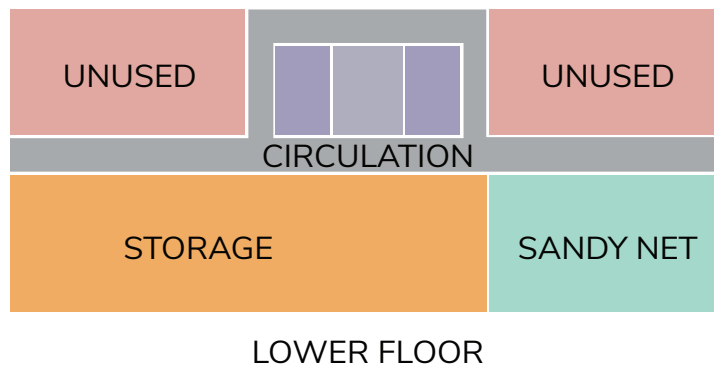
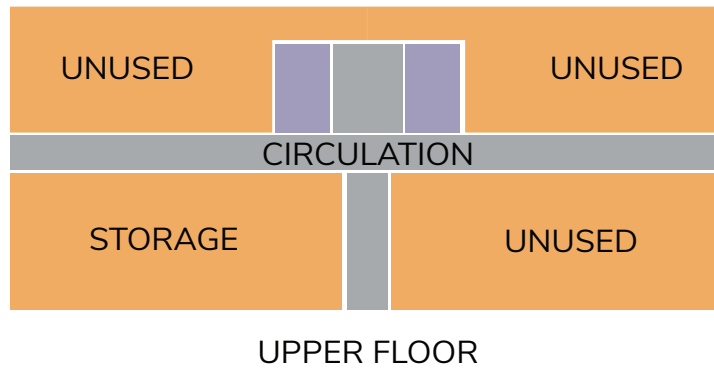
SandyNet: 1,950 sf

Storage / Other: 17,000 sf

Circulation: 5,000 sf

Restrooms: 1,250 sf

Parking spaces: 16 (approximate)



EXISTING FACILITY OVERVIEW

BUNKER BUILDING / SANDYNET

BUILDING SYSTEMS ASSESSMENTS

ROOF:

The roof of the Bunker Building is a built-up bituminous roof with mineral cap sheet. The exact date of last replacement is unknown. Roof is in good condition and properly drained. There is evidence of slight ponding in valleys and drain sumps currently need to be cleaned. The flashing at the parapet appears to be new relative to the building's age, implying a recent re-roof. Water leaks have been observed in the occupied area where SandyNet operates. The leaks, however, may be from other areas not directly related to the roof. Further assessment is needed in determining the source.

With proper maintenance, including leak repairs and yearly drain cleaning, it is reasonable to anticipate a minimum of 10 years remaining service life. It is recommended that the final function of the building and associated modifications are assessed prior to developing a maintenance and replacement schedule.

EXTERIOR WALLS:

The exterior wall at the Bunker Building is composed of 3-score split face concrete masonry units and exposed concrete structure. While the integrity of the product as an exterior siding material finish remains good, there is staining, efflorescence, minor areas of graffiti, and surface and corner damage which need repair. It is recommended that all surfaces be cleaned and sealed. In addition, there are likely areas which are allowing water to penetrate into the wall and would need to be repointed and sealed where needed.

Maintenance should include washing and sealing every 10 years. Mortar repointing may be required every 20 plus years.



WINDOWS AND DOORS:

All windows are aluminum frames with single pane glass with some indication of water infiltrations. Although still functional, they show signs of significant wear and are at the end of service life. It is recommended that all windows and doors be replaced with new systems meeting current energy code requirements. While they are still operational, many of their frames show significant wear and failing seals.

At the current building use level, window replacement is not a necessity and can be deferred until the building is remodeled, its future use is determined, and a plan for interior remodel and systems upgrades are also in place. Upgrading the building should be a whole-building approach, as opposed to upgrading various pieces at different times.



BUNKER BUILDING / SANDYNET

SITE:

The site of this building is perhaps its greatest asset. While the site is in need of maintenance, its size and proximity to the center of Sandy and to the park and outdoor areas make it a valuable property with high potential for development.

ADA COMPLIANCE:

The Bunker Building currently does not meet any ADA standards, and is largely inaccessible to people with limited mobility. The lower floor, for example, can only be accessed by stairs. It would need a ramp at the exterior of the building or lower level accessible parking, a functioning elevator, and ADA compliant restrooms inside the building in order to meet the basic accessibility standards. Further analysis is dependent upon the vision for the building's future use.

Installing an elevator at the location of an existing floor penetration or on the exterior of the building would be the most economical solutions. Creating a new penetration through the floor system may be possible but would require further evaluation.

Rest rooms would need to be reconfigured to meet accessibility requirements. Relocation of plumbing fixtures will require coring holes or sawcutting floors but is achievable.

OTHER CONSIDERATIONS:

The building itself, however, has good structure, and would be well suited to be repurposed for many different applications.

Its location and associated City-owned property make it a good opportunity to become part of larger city development and park network. This building and site could be utilized to consolidate a number of potential uses in one location.

Given the structural system type, modifications such as cutting holes in exterior walls for new windows and entries, and holes in floors for elevators, HVAC, and other purposes, is limited to less than 10% of the area. Steel strong backs, steel frames, shotcrete for wall reinforcement and other reinforcement may be required to maintain structural integrity and/or meet code requirements.

One aspect of the building's current condition that needs to be considered is that finishes and cavities have likely developed mold and mildew as a result of the non-occupied portions not being properly conditioned. Abatement and associated material replacement should be anticipated.

SEISMIC LOAD CAPACITY:

The building was not evaluated for seismic and lateral load capacity. It is recommended that prior to any significant renovations or additions, this evaluation be performed. The extent of required work to bring the building's structure to current regulation should be accounted for in design and budgeting.





SANDY COMMUNITY CENTER

38348 Pioneer Blvd, Sandy, OR 97055

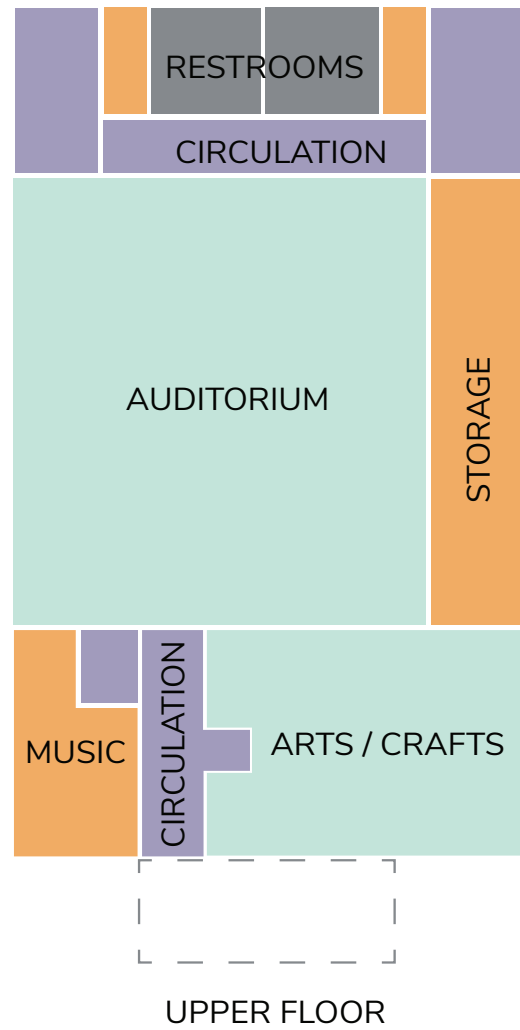
Year Built: Unknown (1950s + later addition)

Approximate Area: 9,000 sf

Approximate Footprint: 4,500 sf

Construction Type: Type VB (wood construction - non-fire-rated)

Sprinklers: Non-Sprinklered



EXISTING FACILITY OVERVIEW

SANDY COMMUNITY CENTER BUILDING SYSTEMS ASSESSMENT

ROOF:

The Community Center's roof is an asphalt shingle roof, and appears to be in mid-life and in good condition. Its estimated time span for replacement is 8 to 10 years. Replacement should be anticipated in 2028 to 2030.

Maintenance should include cleaning gutters and downspouts once a year and washing when biological life becomes visible.

The outside structural columns supporting the roof over the drive-through dropoff area are in immediate need of repair or replacement due to rot at the base, and there is no redundancy in the structure.

EXTERIOR SIDING:

The exterior siding and exterior soffits are of vinyl lap siding. While the materials themselves can last a long time, they are not structural and can be impacted by UV deterioration, deflection, and unsupported spans. There are some small areas in disrepair due to sagging of the material, and there is damaged fastening, such as at the soffit in the front porch area.



Vinyl soffit in disrepair at front porch.



A vented area of the upper exterior wall appears damaged.



The main columns holding up the drive-through dropoff canopy are deteriorating and should be replaced or removed in the near future.

An upper portion of the south exterior wall under the rake appears to be an original wooden vent, parts of which seem to be rotting or damaged. It would be advisable to have the inside attic area checked for water damage and mold as it appears to be open to air infiltration and birds. Any associated interior damage needs to be repaired and the louver replaced with a new screened louver.

WINDOWS:

The windows are original aluminum frames glazed with single pane glass. Minor damage was noted on several windows, including some water damage and some impact damage to areas of trim, but overall no major damage was noted.



This operable window adjacent to a seating area in the Auditorium, 2 floors above grade, presents some safety concern amongst staff.

SANDY COMMUNITY CENTER

The window in the stair landing is required to be tempered safety glass in order to be code compliant and presents a falling hazard as people descend the stair. We could not confirm if this window is glazed with safety glass.

One of the windows in the Auditorium was noted as a potential hazard as it is fully operable, sits along a benchtop, and could be dangerous for children sitting or playing near it as it is open to the driveway one floor below.

SITE:

The building site features a large landscaped setback area in the front of the building and a 35 space parking lot (5 ADA spots) in the back. The paving in the parking area is relatively new, with a few large cracks, and some damaged curb areas. Repaving for this lot would be anticipated in about 5 to 10 years (2025 to 2030).

Other noted site issues were a non-code compliant handrail at the ADA parking directly in front of the drive-through awning, and a non-compliant ADA slope at the west portion of the drive-through ramp.

ADA COMPLIANCE:

As noted above, the parking area has a few ADA compliance issues with respect to the handrail, and drive-through ramp slope.

On the interior, there are a number of non-compliance issues. The drinking fountain in the dining hall needs to be a dual-height fountain instead of the existing single-height fountain. One of the designated fire exits in this space leads to a stairway without wheelchair access or area of rescue.

None of the restrooms meet ADA requirements. Stall dimensions and maneuvering spaces within the room and at fixtures were not sufficient. Without expanding the size of the rooms, fixtures will need to be removed to create required space.

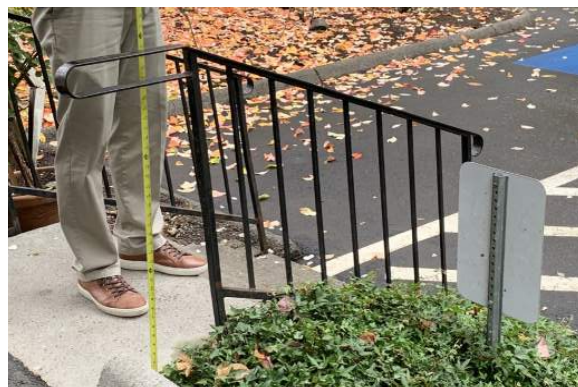
The recessed doorway to the men's restroom in the dining area does not provide the required 18" clearance adjacent to the pull side of the door, or the required 12" clearance adjacent to the push side of the door. The upstairs restroom entrance doors reside in a hall with a less than 48" width, and toilet stalls do not accommodate wheelchair access.



The main stairway at the Community Center does not provide a code compliant guardrail, and the window at the landing needs to be tempered safety glass in order to meet code as well.



The drive-through dropoff entry is in need of structural repair or removal.



The handrail at the drive-through area is too low and not in compliance with code.

SANDY COMMUNITY CENTER

SECURITY:

While there were no major security issues in the facility itself, it was noted that service vehicles for community services do not have a secure parking area, and as such have been stored off-site at the Public Works and Transit Operations Facility, creating a heavier burden there. These topics are addressed further in the future planning assessment portion of this report. Additionally, the facility does not currently have a security alarm system, although a few of the entry doors have magnetic lock systems.

FIRE PROTECTION:

The building is non-sprinklered in the current state. While this is not necessary per the original construction of the building, this may not be the case if evaluated against modern building codes. Providing a sprinkler system can give additional benefits to insurance as well.

The facility does have an electronic fire alarm/detection system in place. However, staff does not know how to use the system, and there is no record of the last time it was serviced. The current annual fire maintenance contract for the building only addresses extinguishers and not the alarm system. It is recommended that the alarm system be evaluated and staff trained at minimum, with replacement if necessary. A modern system could be integrated with a building security package.



Equipment and flooring in the Community Center kitchen are in need of an upgrade.



Linoleum flooring in the kitchen is beyond its life cycle and should be replaced.



SANDY POLICE DEPARTMENT

39850 Pleasant St, Sandy, OR 97055

Year Built: 2012

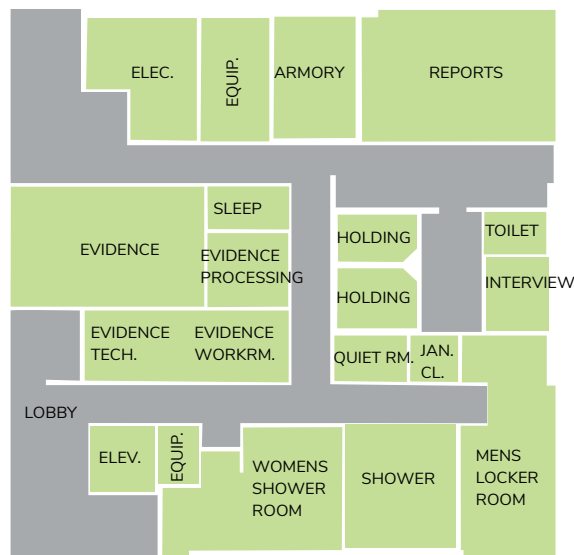
Approximate Area: 8,180 sf

Construction Type: Type VB (wood construction - non-fire-rated)

Sprinklers: Fully Sprinklered



UPPER FLOOR



LOWER FLOOR

EXISTING FACILITY OVERVIEW

SANDY POLICE DEPARTMENT

BUILDING SYSTEMS ASSESSMENT

ROOF:

The low slope roof area at the Police Station is a built-up bituminous roof system with a mineral cap sheet. It is in good condition. It is estimated to need replacement in 20 years from present time (re-roof in 2040). No leaks or damage were observed. Maintenance should include cleaning roof drains once a year, repair flashing as needed, replacing exposed sealant every 10 years, and provide walk pad in areas of significant foot travel.

Mansards and sloped roof areas are standing seam roofing and flashing. The roofing in these areas are in good condition with an anticipated remaining service life of 50 years, with replacement in 2070. Maintenance should include cleaning gutters once a year, repairing damaged flashing as it occurs, and cleaning every 5 to 10 years to remove biological growth and surface contaminants.

EXTERIOR SIDING:

The exterior siding at Sandy Police Department is fiber cement lap siding and is likely to last 40 to 50 years if maintained and painted every 10 to 15 years. Based on observation, repainting should be scheduled in the next year in order to extend the life of the siding.



Damaged concrete driveway at secure parking entry area.



Built-up roof at Sandy Police Department.

The expected replacement is between 2060 and 2070. Maintenance should include replacement of any chipped boards and trim when damage occurs and repainting every 10 to 15 years.

The stone base is in excellent condition with an anticipated service life of over 50 years. Maintenance should include cleaning and sealing every 10 years.

WINDOWS:

Windows are aluminum clad wood glazed with thermal units. They are in excellent condition and likely to have a remaining service life of 30 plus years with replacement in 2050. Maintenance should include washing once a year to remove surface contaminants and replacing any exposed sealant every 10 years.

SITE:

Only minor areas of damage were noticed around the building. The keypad at the secured parking entry has some damage at the concrete base.

SANDY POLICE DEPARTMENT

ADA COMPLIANCE:

The building as a whole meets current ADA standards. The one exception is areas under stairs on both levels. The stairs should be provided with a cane detection guardrail or barrier surrounding any of the areas under the stairs less than 80" high and greater than 27" above finish floor. Currently these areas are blocked with temporary furnishings and bicycles.

SECURITY:

No security issues were observed or reported.



Cane detection rail should be added at under-stair locations for ADA compliance.





CITY OF SANDY PUBLIC WORKS AND TRANSIT OPERATIONS FACILITY

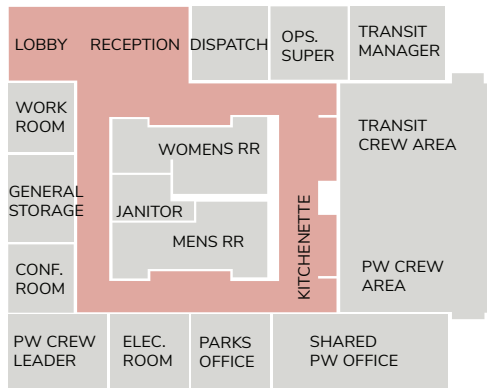
16610 Champion Way, Sandy, OR 97055

Year Built: 2007 (Additional structures under construction 2020)

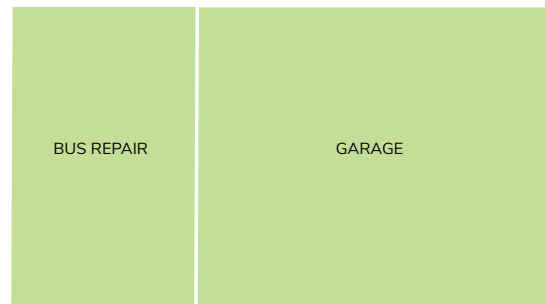
Approximate Total Building Area: 19,196 sf (additional 5,983 sf under construction)

Construction Type: Type IIB (non combustible construction - non-fire-rated)

Sprinklers: Not Sprinklered



TRANSIT OPERATIONS



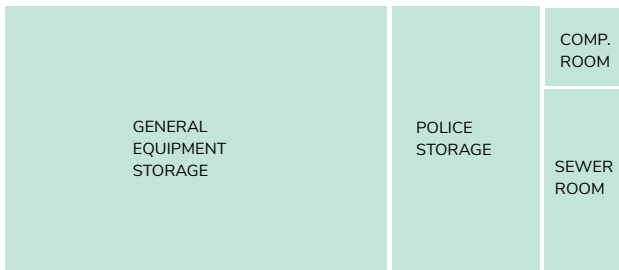
TRANSIT BUILDING #1



PW BUILDING #2



WASH STATION



PW BUILDING #3

EXISTING FACILITY OVERVIEW

CITY OF SANDY PUBLIC WORKS AND TRANSIT OPERATIONS FACILITY

BUILDING SYSTEMS ASSESSMENT

ROOF:

The roofs at the Public Works and Transit Operations Facilities are all standing seam metal roofing. The roofing material appears to be in good condition; however, a number of gutters are leaking and in need of repair. The rake and fascia flashing around the roof are attached with exposed metal fasteners, which is less than ideal for the longevity of these systems. Areas of damaged gutter should be replaced or repaired within the next few years if possible.

EXTERIOR SIDING:

The exterior siding is primarily fiber cement lap siding, or fiber cement panels with battens and exposed concrete walls at the base. All exterior siding appears to be in good condition overall but needs to be repainted as soon as possible in order to maintain the integrity of the materials. The building has not been repainted since its original build date. If maintained and painted regularly, the siding should last another 40 to 50 years.

WINDOWS:

With the exception of two clerestory windows which have failed, windows are in excellent condition and likely to last 30 years or more before replacement will need to be considered. The windows in question should be replaced as soon as possible.

SITE:

The site has a number of issues that will need to be addressed in the coming years. The public parking lot in front of the building was originally paved with a pervious pavement product which has since become clogged and impervious, leading to an area of the lot which is regularly flooded and not sloped to a drain.

The trellis in front of the entry to the main reception area is covered in moss or lichen and does not appear to be easily maintainable. Likely it will need to be removed or replaced within the next 10 years. Other noted issues around the site were minor areas of curb damage around the bus wash station.



Several areas of gutter, such as this one, are in need of repair. Mechanical fasteners should not be used.



Wooden trellis is becoming covered in moss / lichen. It will likely need replacement / removal within the next 10 years.

CITY OF SANDY PUBLIC WORKS AND TRANSIT OPERATIONS FACILITY

ADA COMPLIANCE:

No issues were observed with regard to ADA compliance.

SECURITY:

There are several notable security issues at the Transit Operations Facility. The hardware at the pedestrian gate near the public parking lot is non-operable, causing the gate to be chained closed for security. Once the hardware is replaced or repaired, a wire mesh would need to be welded to an area around the hardware in order to prevent people from reaching through to open the gate.

It was noted at both the Police Department and the Transit Operations Facility that the remote receiver for the secured vehicle gate has had some issues with reception, and therefore the receiving antenna has had to be moved to an unconventional location closer to the keypad.

Another issue discussed was that since the parking lot is used for Park and Ride services, there are members of the public who use the restrooms in the Admin building. This presents potential security risk as there is no separation between the restrooms and the private / staff areas of the Admin building. The men's room in particular is located out of sightline from the front reception area, making it more difficult to monitor.

OTHER NOTED ISSUES:

Most of the buildings are in good condition, and are only in need of regular maintenance such as painting and cleaning, curb repairs, and gutter repairs. An area of an overhead door jamb at Public Works Building #3 appeared damaged from vehicle impact; however, because the damage is non-structural, it is not critical to the normal functioning of the building.

Two new structures, a 3,850 sf Bus Barn and a 2,133 sf Van Barn, are currently under construction on the Public Works/Transit property. These buildings use similar materials as are in-use elsewhere on the site.



Damaged jamb at Public Works Building #3.



Damaged curbs around the bus wash station.



The formerly pervious paving in the front parking area now collects water and is not drained, creating flooded areas.



Gate entrance is chained due to people being able to reach through gate and open from inside.



PROGRAMMING
ASSESSMENT AND
SPACE PLANNING

PROGRAMMING ASSESSMENT & SPACE PLANNING

PROGRAM ASSESSMENT METHOD

The program at each existing building has been divided up in order to show how the building is currently programmed (Current Program), how it would be programmed to meet current needs (With Current Needs), and how the program is anticipated to change in a 10-year period.

The City of Sandy has adopted a projected annual growth rate of approximately 2.8%. If this rate is then projected over a 10-year period, the projected increase in population would be close to 28%. Using this as the basis for growth rate, we have estimated areas of the current program and increased those areas accordingly. Some areas of the program would not see an increase, as their functions would remain similar despite growth in other areas of the program.

Office and workstation areas are compared to industry standard office and workstation layouts using the following assumptions based on industry standards:

Typical Office Area: 120 sf

Typical Workstation Area - 36 sf (6'x6') (Minimum)

Typical Workstation Area (including circulation and supporting spaces) - 125sf - 175sf per person

Typical sf per FTE - 102sf - 211sf per person

*** Based on usable square footage (Net Area)**

In addition to a total net area given for each program, a grossing factor for each building program is given. The grossing factor includes all wall areas and circulation areas. In the "Current Program" column, the grossing factor is based on the actual building. This can be compared to the "Industrial Standard" grossing factor, which is a standard for typical office buildings. While it may appear that the grossing factor for some buildings, such as City Hall, is large compared to the industrial standard, it must also be taken into account that the civic nature of the building warrants large public circulation areas which would not be present in a typical office building.

The "With Current Needs" and "10-year Projection" show a grossing factor of 20% for comparison.

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY CITY HALL

BUILDING AREA:

Existing Total Area: 7,600 sf gross
 Estimated Circulation Area (includes lobby areas):
 2,046 sf
 Percentage of circulation to total: 28%

CURRENT STAFFING:

Development Services staff FTE: 7.33
 City Administration staff FTE: 6
 Public Works staff FTE: 2

Development Services work areas: 4 offices, 6 workstations
 City Administration work areas: 4 offices, 3 workstations

ANTICIPATED GROWTH:

Current need

Development Services staff: +1 FTE (8.33 total)
 City Management staff: +2 FTE (8 total)
 Public Works staff: +0 FTE (2 total)

10-Year Projection

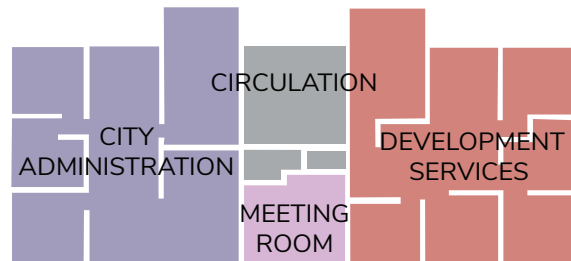
Development Services staff: 11 FTE total
 City Management staff: 10 FTE total
 Public Works staff: 3 FTE total

NEEDS ASSESSMENT

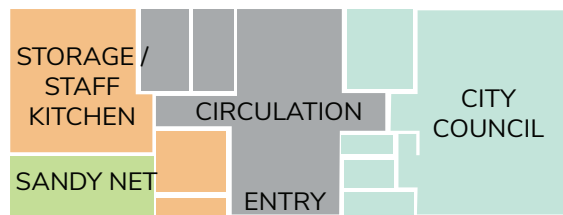
Sandy City Hall currently houses the City's Administrative, Planning and Development departments, SandyNet's fiber optics hub, and City Council Room. The building has been remodeled several times since its original construction and is struggling to meet the needs of the current occupants.

Of primary concern is insufficient storage space, the need for additional workstation areas, a lack of well-defined staff amenity areas, a need for more conference / meeting spaces, and better security.

In addition, the building has a number of non-code-compliant areas including the two lower restrooms, stair handrails / guardrails, and the slope of the ramp from the circulation area into the courtroom.



UPPER FLOOR



LOWER FLOOR

MAJOR DEFICIENCIES

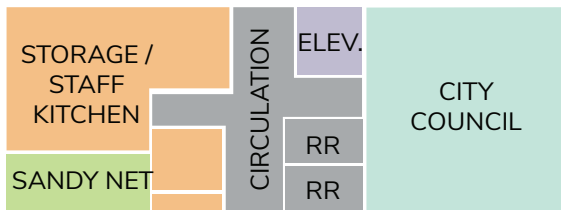
- Insufficient area for storage.
- Multiple large Lobby / Reception areas.
- Limited access control to private areas needed for security.
- Poorly defined circulation paths.
- Lack of well-defined staff amenity areas such as breakrooms or areas, and breakout or private rooms.
- Insufficient area for required number of workstations and work areas.
- SandyNet Systems located in SW corner of building limits better utilization of space.

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY CITY HALL

DESIGN STRATEGIES / OPTIONS

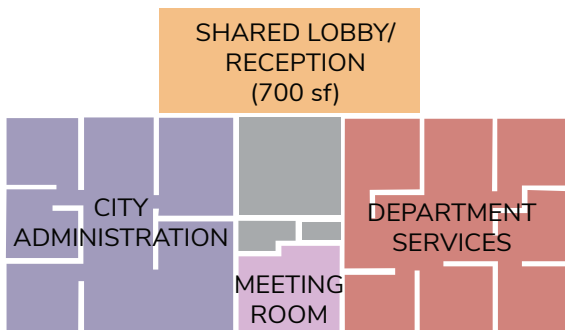
1) Modify Existing Circulation

Recapturing some of the area on the lower floor would be one of the simplest ways to restructure City Hall. The storage areas between the courtroom and the circulation area could be remodeled to enlarge the courtroom and re-configure the circulation area with a new elevator, new ADA compliant restrooms, and a new ADA compliant stairway. Probable cost: Structural Remodel - \$300/sf to \$500/sf (based on 3,000 sf renovation, \$900,000 to \$1,500,000).



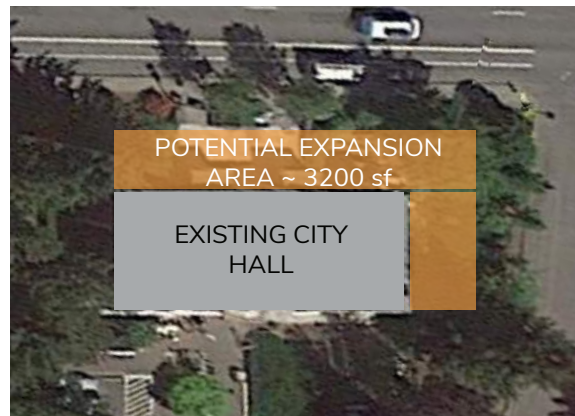
2) Modify Building Entrances

The building currently has two lobbies. An option would be to reconfigure these areas into one combined lobby and reception area, freeing up the existing lobbies to be used for new office area. Probable cost: \$400/sf to \$500/sf (\$300,000 to \$400,000).



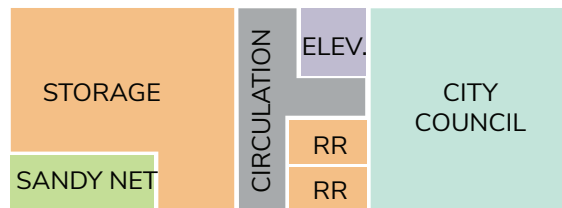
3) Building Addition Opportunities

The current site presents the potential for expansion towards the east portion of the site and north towards the street. A sample plan is provided in the following pages in Remodel Option B (1,838 sf added). The site could potentially support up to 3,200 sf of addition to the current building. Probable cost: Addition \$400/sf - \$600/sf (\$800,000 to \$1,100,000 for Option B. Total cost range dependent on size of addition).



4) Reconfiguration of Existing Layout

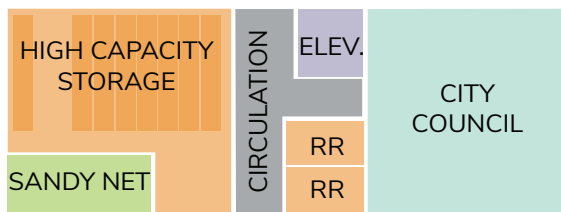
Another option would be to keep the current footprint while reconfiguring the plan. This option would most likely require structural changes with removal of the holding cells, lower floor restrooms, and central circulation elements, but would allow the lower floor to be consolidated into a more efficient storage area for city records, freeing up space for other functions on the upper floor. A sample plan is provided below (Remodel Option A). Probable cost: Remodel - \$300/sf to \$500/sf (\$960,000 to \$1,600,000).



PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY CITY HALL

5) High Capacity Storage System

Similar to the option given above, another option that should be considered would be the use of a high capacity storage system within a consolidated basement area as shown in the previous design option. This could relieve some of the pressure on storage needs in upper floor areas and maximize the storage capability within the building (additional \$20,000 to \$100,000).



6) Relocation Opportunities

Given the scope of work required to modify the existing City Hall building, relocating City Hall to the Bunker Building site is an option that potentially solves many problems at the same time. The existing City Hall could remain in place and house SandyNet's consolidated operations with its fiber optics network.

Because the Bunker Building is already in need of major work, and because of its location and size, moving City Hall to this site would allow the city to create a new City Hall either in the existing Bunker Building or in a new building on the same site. This option would allow the most flexibility since the current site is limited in its capacity for expansion, and because the existing building presents a number of challenges in reconfiguring, and limitations in opportunities for new space to grow over time.

Probable cost: Relocation \$400/sf to \$500/sf.

Location: Sandy City Hall				Department: City Administration						
		Current Program		With Current Needs			10-Year Projection (28% Growth)			
		Current FTE		Current FTE Needs			Projected FTE			
		6		8			10			
Room / Space	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)	
Lobby	292	1	292	290	1	290	290	1	290	
Reception	109	1	109	110	1	110	137	1	137	
Offices	varies	3	450	150	3	450	150	4	600	
Copy / Print	140	1	140	140	1	140	175	1	175	
Workstations	92.5	2	185	64	5	320	64	6	384	
Break Out	0	0	0	80	1	80	100	1	100	
Conference (1)	251	1	251	200	1	200	250	1	250	
Total Net Area		1,427		Total Net Area			1,590	Total Net Area		1,936
Grossing Factor		16.6 %		Grossing Factor			20 %	Grossing Factor		20 %
Department Area		1,710		Department Area			1,908	Department Area		2,324
Industrial Standard		20 %								

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY CITY HALL

Location: Sandy City Hall				Department: Development Services						
			Current Program	With Current Needs			10-Year Projection (28% Growth)			
			Current FTE	7.33	Current FTE Needs	8.33	Projected FTE		11	
Room / Space	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)	
Lobby	256	1	256	256	1	256	256	1	256	
Reception	155	1	155	185	1	185	232	1	232	
Offices	146	4	584	120	5	600	120	7	840	
Workstations	50	2	100	64	5	320	64	8	512	
Open Office / Multi Use	315	1	315	315	1	315	394	1	394	
			Total Net Area	1,410	Total Net Area		1,676	Total Net Area		2,234
			Grossing Factor	2.8 %	Grossing Factor		20 %	Grossing Factor		20 %
			Department Area	1,449	Department Area		2,012	Department Area		2,681
			Industrial Standard	20 %						
Location: Sandy City Hall				Department: SandyNet						
Server Room	232	1	232	232	1	232	290	1	290	
Location: Sandy City Hall				Department: Storage / Staff Amenities						
Storage closet	113	1	113	113	1	113	113	1	113	
Staff Break / Storage	221	1	221	221	1	221	221	1	221	
Holding Cells / Open Storage	311	1	311	311	1	311	311	1	311	
Mechanical	47	1	47	47	1	47	47	1	47	
			Total Net Area	692	Total Net Area		692	Total Net Area		692
			Department Area (1.2 Grossing Factor)	795	Department Area (1.2 Grossing Factor)		795	Department Area (1.2 Grossing Factor)		795
Location: Sandy City Hall				Department: City Council						
Council Chambers	842	1	842	1,342	1	1,342	1,678	1	1,678	
Storage Closet	varies	2	276	varies	1	276	276	1	276	
Mechanical	48	1	48	48	1	48	48	1	48	
			Total Net Area	1,166	Total Net Area		1,666	Total Net Area		2,002
			Department Area (5% Grossing Factor)	1,221	Department Area (5% Grossing Factor)		1,221	Department Area (5% Grossing Factor)		2,102

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY CITY HALL

Location: Sandy City Hall				Department: Circulation/Restrooms/Mech.					
Lower Restrooms	106	2	212	125	2	250	125	3	375
Public Circulation	1,074	-	1,074	1,074	1	1,074	1,074	1	1,074
Upper Restroom	53	1	53	53	1	53	53	1	53
Mechanical	17	1	17	17	1	17	25	1	25
	Total Net Area		1,356	Total Net Area		1,394	Total Net Area		1,527
	Department Area (5% Grossing Factor)		1,429	Department Area (5% Grossing Factor)		1,429	Department Area (5% Grossing Factor)		1,603

Building Summary - Sandy City Hall						
	Current Program		With Current Needs		10-Year Projection (28% Growth)	
	Current FTE: 16		Current FTE Needs: 19		Projected FTE: 24	
City Administration	1,427 sf		1,590 sf		1,936 sf	
Development Services	1,410 sf		1,676 sf		2,234 sf	
City Council	1,166 sf		1,666 sf		2,002 sf	
SandyNet	232 sf		232 sf		290 sf	
Storage and Staff Amenities	692 sf		692 sf		692 sf	
Restrooms / Mechanical*	282 sf		320 sf		453 sf	
	Total Net Area	5,162	Total Net Area	6,129	Total Net Area	7,560
	Grossing Factor	32%	Grossing Factor	20%	Grossing Factor	20%
	Building Area	7,600	Building Area	7,355	Building Area	9,072

*circulation included in final grossing factor

BUILDING SUMMARY

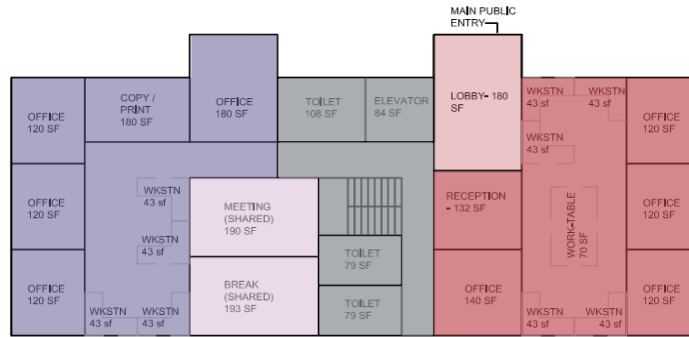
In the building summary above, the circulation area has been removed from the listed areas as it is included in the grossing factor for the total building area in order to give an accurate representation of total grossing factor for the building as a whole.

The current building area for the City Administration department is approximately 1,427 net square feet. An additional 100 sf is the amount of area needed to fulfill the current space needs for this department. The 10-year projected need for the City Administration would require an additional 445 square feet.

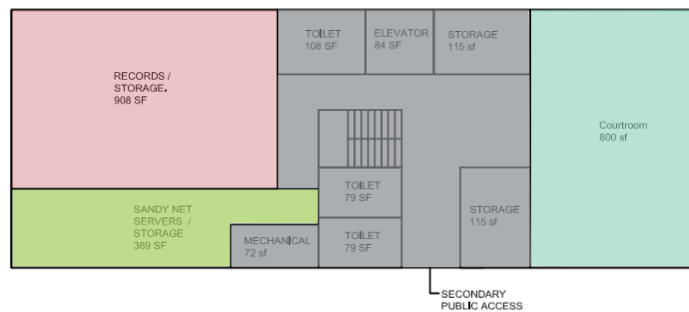
The Community Development department area is approximately 1,410 sf. It currently needs an additional 266 sf to meet the need for additional workstation area. The projected need in 10 years would add 445 sf to the current area.

If all the departments, storage and staff amenities space needs grow proportionally with the community, the building area as a whole will be deficient in area by 1,318 sf.

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY CITY HALL



SANDY CITY HALL OPTION A - UPPER LEVEL



SANDY CITY HALL OPTION A - LOWER LEVEL

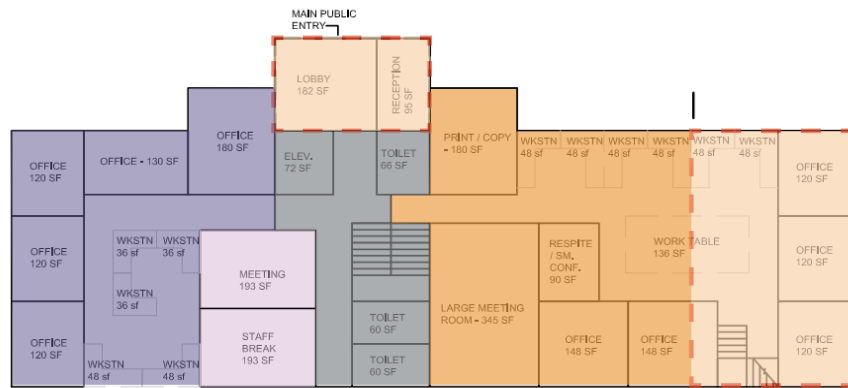
SANDY CITY HALL REMODEL OPTION A (REMODEL IN EXISTING FOOTPRINT)

In this scenario, Sandy City Hall would stay in its current building and keep the same footprint and exterior walls, while making some significant changes to the interior circulation and restructuring parts of the building. The former holding cells, main stair and lower floor restrooms would be removed to allow for a larger unified storage / records area and new ADA compliant stairs and restrooms. An elevator would also be installed for easier access for ADA users, and for moving records and equipment between floors. The overall circulation would be reduced significantly, and the two separate lobby areas would be combined into one, allowing room to add an office and breakroom.

In this case, the Courtroom would maintain its current footprint. Alternative options could be to create a breakroom area in the storage area near the Courtroom while doubling the capacity of the upstairs meeting / conference area.

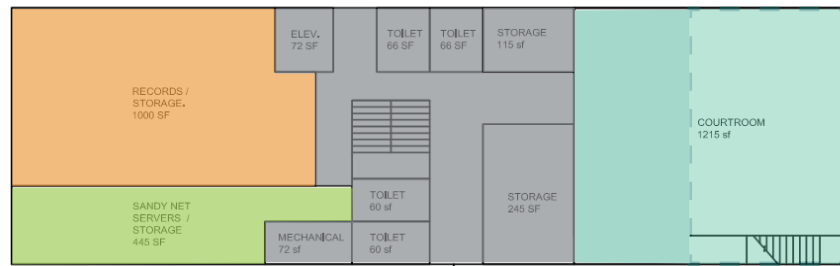
This plan would require major structural upgrades, but could accomplish the basic spatial / organizational objectives of City Admin and Planning staff needs while bringing the building up to current code compliance.

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY CITY HALL



**SANDY CITY HALL OPTION B
UPPER LEVEL**

Upper Level
Area Increase - 1,058 sf



**SANDY CITY HALL OPTION B
LOWER LEVEL**

Lower Level
Area Increase - 780 sf

SANDY CITY HALL REMODEL OPTION B (REMODEL + EXPANSION)

In this scenario, Sandy City Hall would expand to capture areas of the existing site in the front and to the east side of the building. Similar to option A, this plan would involve significant structural and infrastructure changes to the lower level in order to remove the former holding cells, and non-ADA compliant restrooms and stairs. This would allow for one large open storage area for records, and allow for the recapturing of circulation space.

The main advantages of this option are additional storage space, significant enlargement of the Courtroom, a breakroom, and multiple meeting / conference areas, as well as additional office and workroom space for future growth. As in the previous example, the two separate lobby areas would be combined into one lobby / reception area, and the expansion would add an elevator and a number of new ADA compliant toilets. One room could also be used for small one-on-one meetings or as a respite room.

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY PUBLIC LIBRARY

BUILDING AREA:

Existing Total Area: 11,500 sf gross
 Estimated Circulation Area: ~1800 sf
 Percentage of Circulation to Total: ~16%

CURRENT STAFFING / STATISTICS:

Library Dept. staff FTE: 13
 Library Volunteers & PTE: 10 +
 Annual Visitors: 165,000
 Service Area: 26,000 people
 Work areas: 3 offices, 6 workstations

ANTICIPATED GROWTH:

Current need
 Staff: +2 FTE

10-Year Projection
 Staff: 16 FTE

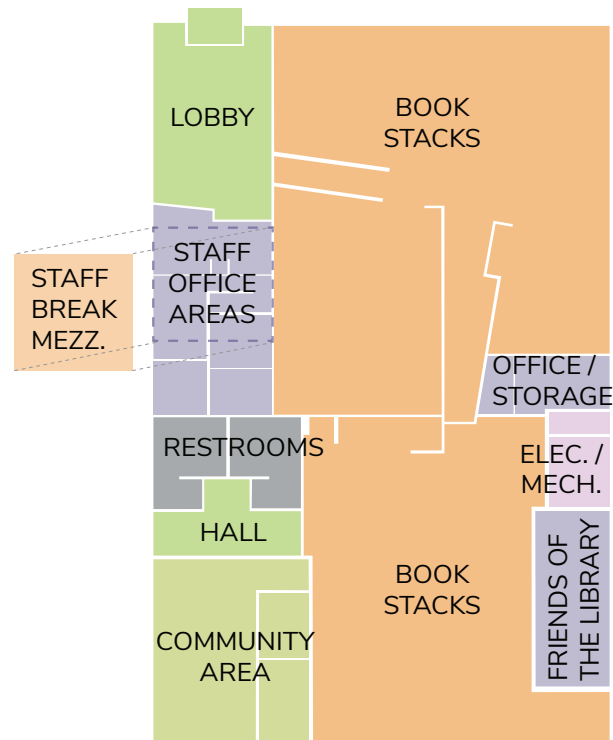
NEEDS ASSESSMENT

The Sandy Public Library is a well-utilized community resource that is both a full-service library and a host for community activities and programs. The building was recently renovated for the current program but does not fulfill the operational needs of the staff. Staff workstations and work areas are inadequate for the current number of FTE, and the community space is insufficient in size for some of the programs and events hosted at the facility.

The building is located in a dense commercial development area in the heart of downtown Sandy. Its parking lot is limited in size and shares site circulation through the parking area and around the building with adjacent buildings. Limited parking and vehicular congestion create issues for visitors and staff.

BUILDING DEFICIENCIES / NEEDS

- Not enough workstation area / office space -- 2 additional offices needed.
- Needs larger capacity meeting / event areas that can accommodate 300 people.
- Need more storage for community programs, arts/crafts. Much of the library storage is currently at the Bunker Building. Anticipated need is 5,000 sf.



- Circulation not wide enough in some areas.
- Off-street parking is not adequate. Location creates conflict / competition with neighboring commercial facilities (currently about 40 spaces).

PROGRAM ANALYSIS

The Sandy Public Library has a demonstrable shortfall in several key areas of its program, namely office space, workstation areas, and community event space. The anticipated need for growth in these areas, in addition to the fact that much of the library's current storage is provided off-site at the Bunker Building, make it clear that the Library has a significant need for expansion and will most likely need to almost double its area within 10 years. Due to the location and limitations of the current site, the options for meeting these needs would require either a major vertical addition, replacement in-place, or relocation to a larger facility in order to meet the 10-year projected program.

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY PUBLIC LIBRARY

SANDY PUBLIC LIBRARY									
	Current Program			With Current Needs			10-Year Projection (28% Growth)		
	Current FTE		13	Current FTE Needs		15	Projected FTE		16
Room / Space	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)
Lobby / Checkout	970	1	970	970	1	970	970	1	970
Staff Offices / Workstations	varies	2	415	120	7	840	120	9	1,080
Processing	178	1	178	178	1	178	225	1	225
Private Study	100	1	100	100	1	100	100	2	200
Restrooms	240	2	480	240	2	480	240	3	720
Data / Comm	62	1	62	62	1	62	80	1	80
Dedicated Storage	125	1	125	varies	varies	2,500	3,125	1	3,125
Book Stacks	5,700	1	5,700	5,700	1	5,700	7,125	1	7,125
Mechanical	140	1	140	140	1	140	175	1	175
Electrical	45	1	45	45	1	45	56	1	56
Friends of the Library	455	1	455	455	1	455	570	1	570
Staff Break / Kitchen	365	1	365	365	1 (W/ ADA)	365	400	1	400
Community Kitchen	125	1	125	125	1	125	250	1	250
Community Event Space	750	1	750	2,000	1	2,000	2,500	1	2,500
Conference / Meeting	-	0	0	240	2	480	240	2.5	600
	Total Net Area		9,910	Total Net Area		14,440	Total Net Area		18,076
	Grossing Factor		16%	Grossing Factor		20%	Grossing Factor		20%
	Total Area		11,500	Department Area		17,328	Department Area		21,692
Parking	33 (stalls)			+20 (needed)		53 stalls			67 stalls

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY PUBLIC LIBRARY

DESIGN STRATEGIES / OPTIONS

1) Vertical Expansion

The site does not have available area for horizontal expansion without significant impact to parking and site circulation. A second floor could be added to a portion or all of the building footprint. This would require major modifications and partial replacement of the building structure. The renovation could be phased or limited to a portion of the existing building in order to maintain partial operation during renovation, or services could be temporarily relocated off site. The extent of the disruption would depend on the size of the addition.

An alternate to a full second floor addition would be the addition of a mezzanine within the existing building envelope. The floor to roof deck height does not fully support such an addition, limiting the mezzanine area, mechanical services and the practical use of the space.

Both vertical options would require new stairs and elevator and would be best utilized for expansion or relocation of administrative support space. Relocation of these functions would free up approximately 590 sf of ground floor space for expansion of the Library or public event program.

Probable cost: Probable cost of these options varies greatly depending on approach and scope. It should be anticipated that a likely cost range would be \$400/sf to \$550/sf (\$2,40,000 to \$3,200,00).

2) Relocation

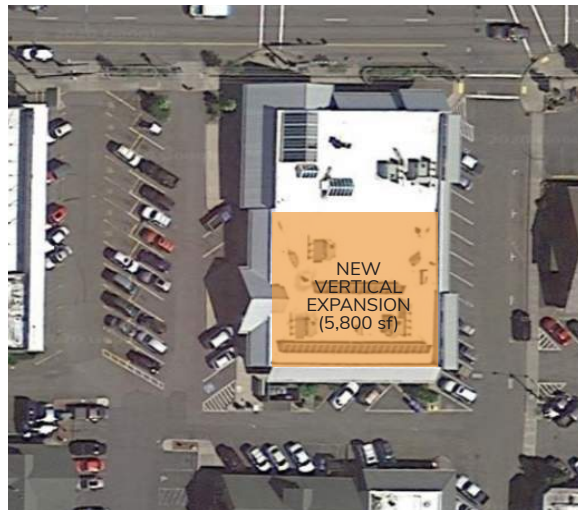
Due to location and building type, the property could be sold or leased for commercial activities. It could also be repurposed for other city functions such as community development, city management, city council and courts services. The new location could be a new building or repurposing of an existing building or portion of an existing building such as the Bunker Building.

Probable cost: Relocation - \$150/sf to \$250/sf (\$3,300,000 to \$5,500,000), depending on scope of program and modifications required for interior improvements. New Building - \$375/sf to \$500/sf (\$8,200,000 to \$10,900,000) excluding new property acquisition.

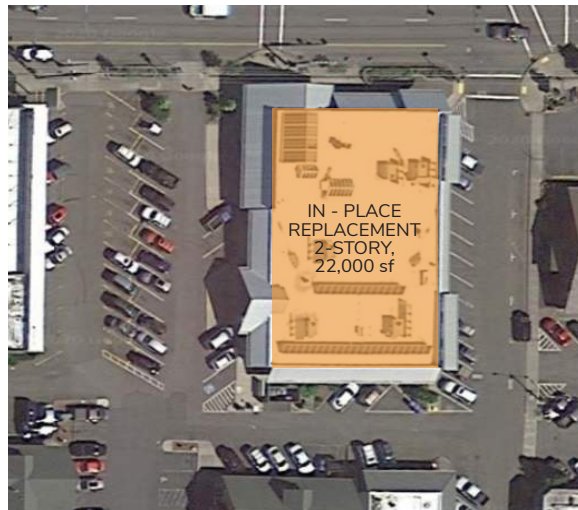
3) Replacement in place

Exiting services could be suspended or temporarily relocated for a full in place replacement of the building. The replacement could have up to 3 floors with additional parking added below the building, either on grade and/or below grade.

Probable cost: \$400/sf to \$500/sf (\$8,700,000 to \$10,900,000).



An option to build a vertical addition could allow a portion of the Library to remain operational during construction.



A full replacement of the Library in place would allow the Library to meet its 10-year program while maintaining the current location.

PROGRAMMING ASSESSMENT & SPACE PLANNING - BUNKER BUILDING / SANDYNET

BUILDING AREA

SandyNet: 1,950 sf
 Storage / Other: 17,000 sf
 Circulation: 5,000 sf
 Restrooms: 1,250 sf
 Parking spaces: 16 (approximate)

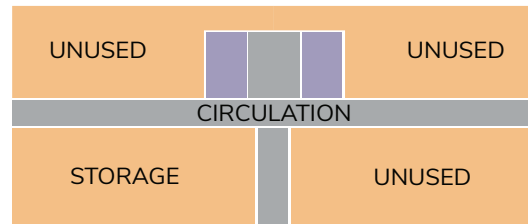
Existing Total Area: 25,500 sf gross
 Estimated Circulation Area: 5,000 sf
 Percentage of circulation to total: 20%

NEEDS ASSESSMENT

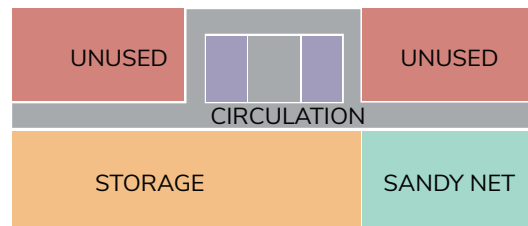
The Bunker Building and associated property was acquired by the City of Sandy from the Sandy School District. It is a predominantly concrete building that can be upgraded to meet current structural and accessibility requirements. With thoughtful modifications, the building could be repurposed into a warm and welcoming public asset that can house multiple public functions (such as library, community recreation, events and services), administrative services (such as community development and management), and multiple other functions.

The building is currently underutilized with over 50% of the floor area vacant, and the remainder used for SandyNet operations and City-related storage. Renovation and modifications will be required to repurpose the building for public access. These modifications would require some seismic upgrades; modification to site circulation and parking; reconfiguration of vertical circulation and restrooms in order to meet current codes and accessibility requirements; finish upgrades; and abatement of asbestos and potentially mold.

The building and associated property are located near downtown Sandy and have many amenities, such as ample room for new buildings and parking, athletic fields, connections to local trail system, and adjacency to city aquatic center and new high school.



UPPER FLOOR



LOWER FLOOR

BUILDING DEFICIENCIES / NEEDS

- The building is mostly unconditioned and in a state of deterioration. All windows, interior finishes, plumbing, electrical, and HVAC components are anticipated to need replacement in the event of future occupation.
- The exterior envelope needs cleaning and some repair, but is in good condition overall and should last another 50 to 100 years if maintained.
- The building's one-way concrete structure and its simple organization and layout make it a very flexible building for adaptive reuse.
- The building is not ADA compliant and would require installation of an elevator for any future occupancy in addition to ADA upgrades throughout.
- This building may have asbestos components and should be inspected before any future demolition is conducted.
- The main assets of this building, aside from it being a heavy concrete structure, are its site and location relative to downtown Sandy, making it an ideal location for a number of potential uses, such as a new City Hall, Community Center, or a combination of different uses on one site.

PROGRAMMING ASSESSMENT & SPACE PLANNING - BUNKER BUILDING / SANDYNET

DESIGN STRATEGIES / OPTIONS

1) Continued repurposing and utilization of the building for non-public city functions such as storage and SandyNet operations (\$200/sf to \$460/sf, \$5,100,000 to \$10,200,000).

2) Sell property or portions of it to generate revenue for other city functions or property development. Property trade or swap mechanisms may be available for trading property with other private or public entities in order to acquire property better suited for City needs.

3) Replace building with new building, designed to accommodate selected program fitted for other city functions. The building could also be demolished and the existing property redeveloped for outdoor park/recreation uses and associated parking requirements.

Probable cost: \$375 to \$500/sf. Cost is dependent on many related factors and extent of site development (\$11,000,000 to \$15,000,000 based on 30,000 sf building)

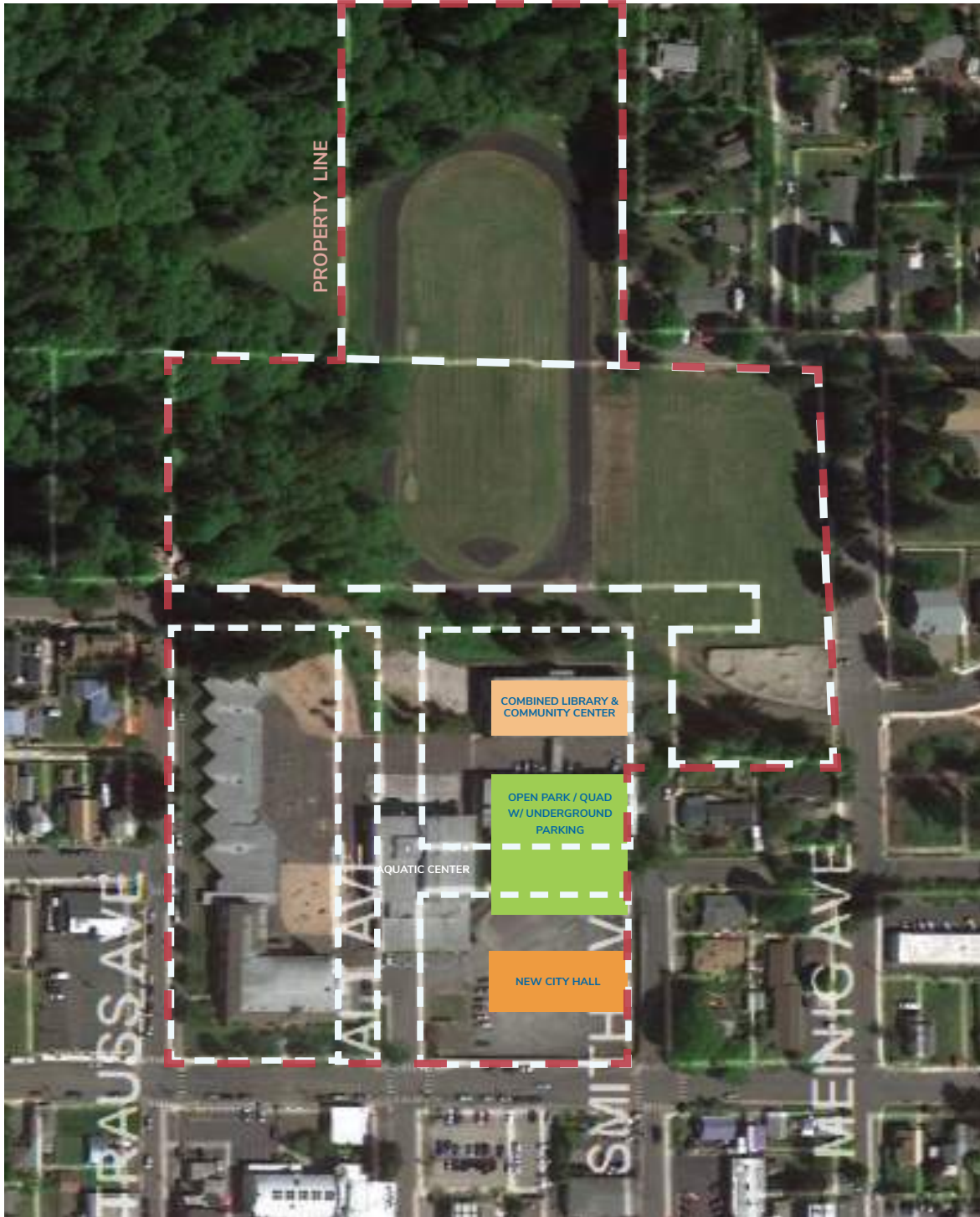
4) Renovate building and site to accommodate existing and new city functions. Recommended programs would include Parks and Recreation, Community Center, Library, and large meeting needs such and Municipal Court and Council.

Probable cost: \$200 to \$400/sf. Cost is dependent on many factors including program and extent of site improvements (\$5,100,000 to \$10,200,000).

5) As an expansion of option 4, further development of site could include functions such as new City Hall; expanded parking and Park and Ride capacity for mountain and outlying community transit service; and expansion of parks, outdoor sports facilities, and other community outdoor amenities. Development can be phased to accommodate need and revenue constraints.

Probable cost: Dependent on extent and scope of development (\$10,000,000+).

COMBINED FACILITIES EXAMPLE:
CITY HALL, COMMUNITY CENTER & LIBRARY



PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY COMMUNITY CENTER

BUILDING AREA:

Existing Total Area: 9,000 sf gross
 Estimated Circulation Area: 1,000 sf
 Percentage of circulation to total: 11%

CURRENT STAFFING:

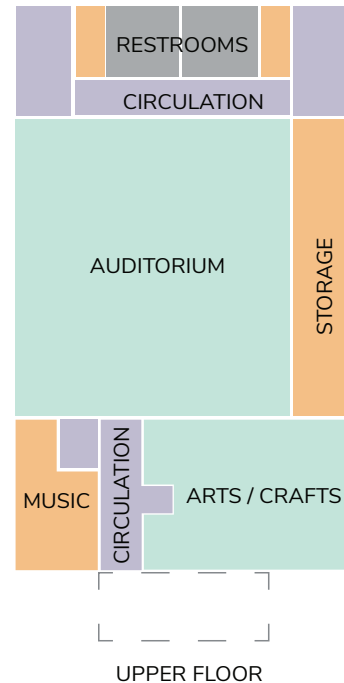
Community Center staff FTE: 5
 Community Center Part Time staff: 8
 Volunteer Staff: Varies

NEEDS ASSESSMENT

The Community Center has multiple accessibility issues and is not adequately sized for the programs and population served. Because of the construction type, it is possible to renovate and reconfigure to address some of these issues, but without building footprint expansion, the building will be limited in its ability to serve its current administrative and program requirements and will not be able serve future needs as the community grows.

BUILDING DEFICIENCIES / NEEDS

- Additional office space needed.
- No private staff areas away from public areas. Offices are immediately adjacent to public areas causing frequent interruption and lack of privacy.
- Need conference / meeting rooms.
- No on-site outdoor recreation areas.
- Event space is only able to be used when staff are present. (Cannot currently be rented out without staff supervision due to security issues).
- No breakroom for staff.
- Bathrooms and stairs not in compliance with current code / ADA guidelines.
- No secure parking.
- Inadequate storage space.
- Low visibility to street.
- Many areas of the interior are in need of repairs and upgrades, such as the community kitchen.



PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY COMMUNITY CENTER

PROGRAM ANALYSIS

The current Community Center has a gross net area of approximately 8,750 sf. The required floor area with all program differences accounted for is approximately 12,150 sf, which is an additional 3,400 sf of floor area required to meet current needs. The 10-year growth projection based on adjusted program floor area is approximately 15,000 sf which is an additional 6,350 sf more than the current building size.

Sandy Community Center									
	Current Program			With Current Needs			10-Year Projection (28% Growth)		
	Current FTE		5	Current FTE Needs		8	Projected FTE		10
Room / Space	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)
Auditorium	1935	1	1,935	1935	1	1,935	2,420	1	2,420
Restrooms	117.5	4	470	150	4	600	150	5	750
Dedicated Storage	900	varies (1)	900	1900	varies (1)	1,900	2,375	varies (1)	2,375
Game Room	860	1	860	860	1	860	1,075	1	1075
Community Dining Area	1660	1	1,660	1660	1	1,660	2,075	1	2,075
Community Kitchen	385	1	385	585	1	585	700	1	700
Offices / Shared Workspace	118.5	4	475	120	8	960	120	10	1,200
Reception	100	1	100	120	1	120	120	1	120
Music	200	1	200	200	1	200	250	1	250
Arts / Crafts	745	1	745	745	1	745	900	1	900
Staff Break	-	0	0	200	1	200	250	1	250
Conference	-	0	0	180	2	360	varies	3	450
	Total Net Area		7,730	Total Net Area		10,125	Total Net Area		12,565
	Grossing Factor		11.45%	Grossing Factor		20 %	Grossing Factor		20%
	Department Area		8,615	Department Area		12,150	Department Area		15,078
	Industrial Standard		20 %						

* Secure Parking Area for Community Center buses / vans should also be factored into future building program needs.

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY COMMUNITY CENTER

DESIGN STRATEGIES / OPTIONS

1) Renovate existing building to address current accessibility and accessibility issues.

Probable cost range: Cost range will vary greatly depending on extent of renovation. It is worth noting that renovations can be phased to spread economic and political impacts over a period time.

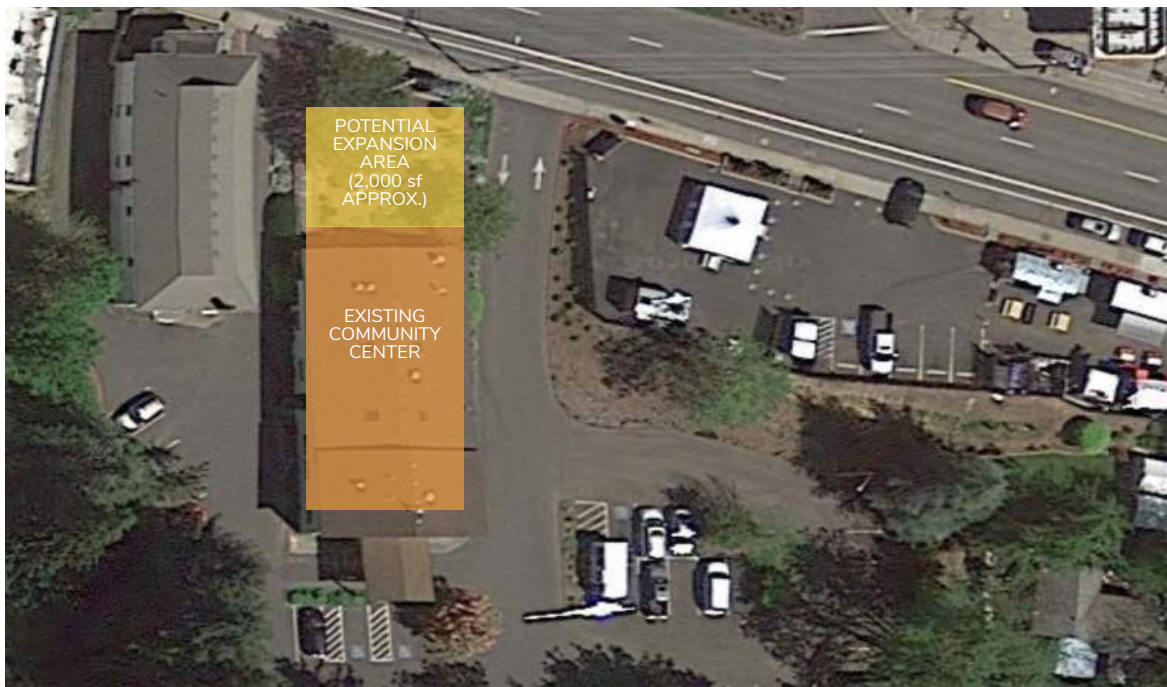
Probable Project Cost: A comprehensive project cost might vary from \$50/sf to as high as \$250/sf, depending on scope of modifications.

2) Relocate the Community Center staff and programs to another location better suited and sized for the program provided and repurpose the building for another City function, or sell the property for private commercial use or development. Options for alternate city functions would be: Community Development Departments (Economic, Planning and Building Departments) or SandyNet administration.

Probable cost range for moving to an existing building could range from \$50 to over \$150 per sf depending on modification requirements of new locations. This would not include new property purchase costs, lease costs, or moving costs.

3) The site is large enough to allow for a moderate expansion or a possible multi-story replacement to be constructed. Both options could allow the current program to remain in operation with proper planning. The viability of expansion or replacement is impacted by reduction in parking and limitations with site circulation due to steep site topography.

Probable Project Cost:
Addition and new construction: \$375/sf to \$450/sf



An example of Option 3, the Community Center could create a new expansion to the North, creating greater visibility from the street.

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY POLICE DEPARTMENT

BUILDING AREA:

Existing Total Area: 8,180 sf gross
 Estimated Circulation Area: 2,075 sf
 Percentage of circulation to total: 25%

CURRENT STAFFING:

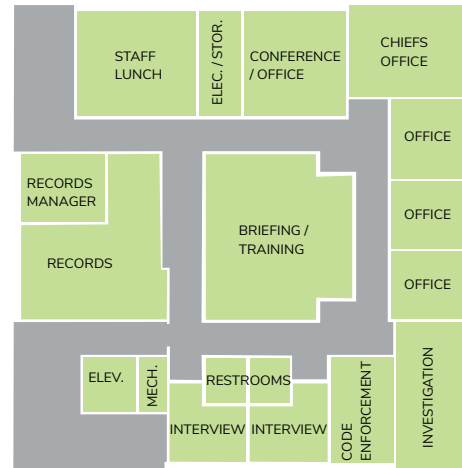
Police Dept. staff FTE: Not Determined
 Anticipated growth in 5 years: +4 FTE

NEEDS ASSESSMENT

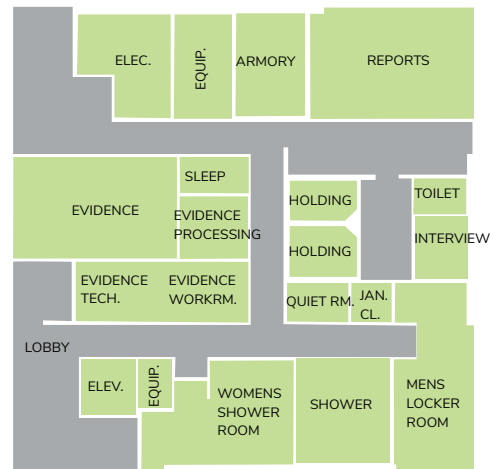
The Police Station was constructed in 2012 and per interviews is meeting the requirements of the department. As the community grows and law enforcement needs and requirements change, there may be a need for expansion of services resulting in increased FTE and program space. The City and Police Department have been viewing the adjacent property, currently occupied by a dental office, as a potential option for expansion.

BUILDING DEFICIENCIES / NEEDS

- Secure storage area is off-site at Transportation and Public Works.
- Briefing and training area is considered at capacity and in need of enlargement.
- Secured parking is limited and needs additional area.
- Reports area is at capacity.
- Police Department hopes to acquire land adjacent to premises as available in future for additional parking, storage and expansion.



UPPER FLOOR



LOWER FLOOR

Sandy Police Department

Sandy Police Department									
	Current Program			With Current Needs			10-Year Projection (28% Growth)		
Room / Space	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)
Public Lobby	628	1	628	628	1	628	628	1	628
Staff Lunch	245	1	245	245	1	245	300	1	300
Storage (on-site)	167	1	167	167	1	167	150	1	150
Offices	varies	5	763	varies	5	763	120	8	960
Investigation	240	1	240	240	1	240	290	1	290
Code Enforcement	148	1	148	148	1	148	185	1	185
Interview	247	1	247	247	1	247	250	1	250
Restrooms	varies	4	157	varies	4	157	40	5	200
Elevator	110	1	110	110	1	110	110	1	110
Elevator Mech	32	1	32	32	1	32	32	1	32
Electrical	160	1	160	160	1	160	200	1	200
Records	266	1	266	266	1	266	325	1	325
Records Manager	108	1	108	108	1	108	120	1	120
Records Files	72	1	72	72	1	72	85	1	85
Briefing / Training	414	1	414	914	1	914	1,142	1	1,142
Armory	137	1	137	137	1	137	172	1	172
Equipment Storage	118	1	118	118	1	118	150	1	150
Reports	358	1	358	478	1	478	600	1	600
Evidence	304	1	304	304	1	304	380	1	380
Evidence Processing	85	1	85	85	1	85	105	1	105
Evidence Tech	84	1	84	84	1	84	105	1	105
Evidence Workroom	118	1	118	118	1	118	140	1	140
Womens Lockers	254	1	254	254	1	254	302	1	302
Mens Lockers	485	1	485	485	1	485	600	1	600
Janitor Closet	32	1	32	32	1	32	40	1	40
Holding Cells	60	2	120	60	2	120	60	3	180
Quiet Room	48	1	48	48	1	48	50	1	50
Storage Lockers	195	1	195	195	1	195	250	1	250
Shop	-	-	0	500	1	500	500	1	500
	Total Net Area		6,095	Total Net Area		7,095	Total Net Area		8,281
	Grossing Factor		34%	Grossing Factor		30 %	Grossing Factor		30%
	Department Area		8,180	Department Area		9,224	Department Area		10,765
	Industrial Standard		30 %						

* Secure Offsite Storage - see Transit Operations and Public Works space planning / programming assessment

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY POLICE DEPARTMENT

PROGRAM ANALYSIS

The current Police Station has a gross net area of approximately 8,200 sf. Per interviews, the building is currently serving the needs of the department, with some noted exceptions. The Police Department anticipates the need for additional area in their training / briefing room to accommodate larger groups. The "Reports" area is also in need of more area. Additionally, the Police Department would like to acquire area for a shop. These items have been added to the current needs area of the program.

One area of the Police Department's program that is not represented in the current program is the off-site storage area which is now at the Transit and Public Works site in one of the Public Works Buildings. This area is currently reducing part of the storage capacity for other Public Works storage needs.

As part of the Public Works and Transit Operations master plan, the Police Department off-site storage area was scheduled to have its own separate building in the future. This building would likely reduce the pressure on Public Works' storage, and provide an opportunity to create a shop area (although not on-site) for the Police Department. More information on this building is given in the Public Works and Transit Operations Programming Assessment in this report.

DESIGN STRATEGIES / OPTIONS

1) Purchase nearby property to expand parking, and construct an annex building serving the existing Police Station or repurpose the existing building to the north for police use.

Probable Project Cost: New Building \$350/sf to \$450/sf (\$626,850 - \$805,950) depending on program requirements, building size and

number of stories. If repurposing the existing building, probable cost would be \$50/sf to \$150/sf (\$89,550 to \$268,650) depending on required modifications. These probable costs do not include property acquisition.

2) Build an addition in the location of the existing secure parking yard. This addition would include secure ground floor parking and exterior storage to the equivalent of the current parking yard.

Probable Project Cost: \$400/sf to \$450/sf (\$716,400 - \$805,950) - Based on Area Deficiencies (\$ 3,988,400 - \$4,486,950) - Based on 10-year Total Program

3) Build a satellite station strategically located to better serve remote locations of the community and jurisdiction. Location would depend on future growth patterns and service requirements.

Probable cost: \$350/sf to \$450/sf depending on program requirements, building size, number of stories, and site development requirements. These probable cost do not include property acquisition.



An example of design Option 2, the existing building is expanded to the east with covered parking on the ground floor.

PROGRAMMING ASSESSMENT & SPACE PLANNING - SANDY PUBLIC WORKS & TRANSIT

BUILDING AREA:

Existing Total Building Area: 19,196 sf gross

CURRENT STAFFING:

Current Public Works: FTE: 10.2, +2 seasonal temp.

Current Transit Ops FTE: 22.8 + 3 PTE

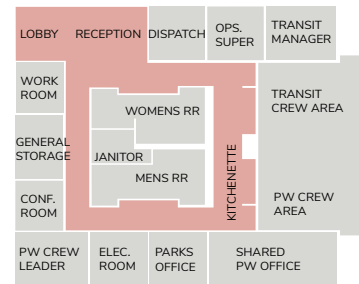
ANTICIPATED GROWTH:

Anticipated Public Works growth in 5 years: +2 FTE

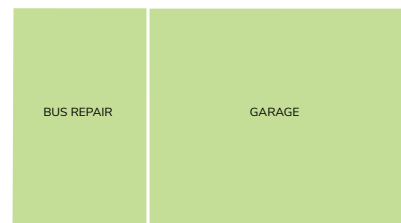
Anticipated Transit Ops growth in 5 years + 4 FTE

BUILDING DEFICIENCIES / NEEDS

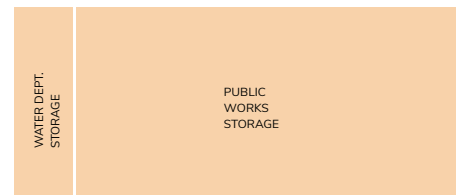
- Former conference / meeting room has been repurposed as an office for Transit. Meeting space reduced.
- Additional public and private restrooms needed to accommodate heavy peak-time occupancy during morning check-in, and for public Park and Ride accommodation for Mt. Hood service. Public restroom areas need separation from private / secure areas. Alternatively, Park and Ride Service for Mt. Hood Buses could be relocated to an area downtown to reduce parking and restroom demand.
- 1 additional office needed for Transit Operations.
- 1 additional office needed for Public Works.
- Large classroom / training / conference area needed for up to 40 people.
- Covered area for wet spoils — estimated need of 2500 sf.
- Additional 6 bays of covered bus storage.
- Additional covered equipment storage areas.
- Separate breakroom areas needed for both Public Works and Transit Operations.
- Public Works needs a separate mudroom area with washer, dryer, lockers, and changing room.
- Public Works needs a work area with several workstation areas for field staff.



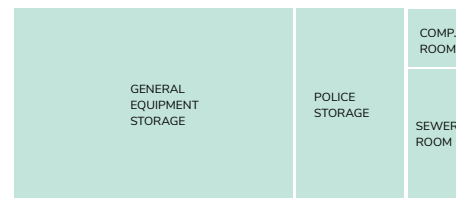
ADMIN. / OPERATIONS BUILDING



TRANSIT BUILDING #1



PW BUILDING #2



PW BUILDING #3



WASH STATION

SANDY PUBLIC WORKS AND TRANSIT OPERATIONS FACILITY - ADMIN BUILDING

Room / Space	Current Program			With Current Needs			10-Year Projection (25% Growth)		
	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)	Area (sf)	Quantity	Total Area (sf)
Lobby	162	1	162	162	1	162	162	1	162
Reception	122	1	122	122	1	122	122	1	122
Transit Offices	varies	4	528	varies	6	828	120	8	960
Transit Crew Area	412	1	412	412	1	412	515	1	515
PW Crew Area	412	1	412	412	1	412	515	1	515
Public Works Office	288	1	288	288	1	288	360	1	360
Parks Office	130	1	130	130	1	130	130	1	130
Electrical	130	1	130	130	1	130	162	1	162
PW Crew Leader	160	1	160	160	1	160	160	1	160
Kitchenette	75	1	75	75	1	75	-	-	-
Conference	135	1	135	135	1	135	169	1	169
Work Room	104	1	104	150	1	150	188	1	188
Janitor	72	1	72	72	1	72	72	1	72
Womens RR	225	1	225	475	1	475	590	1	590
Mens RR	214	1	214	464	1	464	580	1	580
Storage	67	1	67	67	1	67	85	1	85
Lockers	32	1	32	32	1	32	50	1	50
Transit Ops Break RM	-	-	-	240	1	240	300	1	300
Public Works Break RM	-	-	-	240	1	240	300	1	300
Public Works Mudroom / Lockers	-	-	-	500	1	500	625	1	625
Multipurpose Classroom	-	-	-	1200	1	1,200	1500	1	1500
Training / Classroom Office	-	-	-	120	1	120	150	1	150
Public Works W/D + Drying Room	-	-	-	300	1	300	375	1	375
	Total Net Area		3,268	Total Net Area		6,714	Total Net Area		8,070
	Grossing Factor		24.4 %	Grossing Factor		20 %	Grossing Factor		20 %
	Department Area		4,065	Department Area		8,057	Department Area		9,684
	Industrial Standard		20 %						

**SANDY PUBLIC WORKS AND TRANSIT
OPERATIONS FACILITY
TRANSIT BUILDING #1**

FUNCTION	CURRENT PROGRAM	CURRENT NEED	10-YEAR PROGRAM
Bus Maintenance / Repair	1,380 sf		1,380 sf
Covered Bus Parking	2,740 sf		2,740 sf
Addition to Transit #1 (Bus Barn)	3,845 sf		3,845 sf
Addition to Transit #1 (Van Barn)	2,133 sf		2,133 sf
Future Bus Storage	0		3,845 sf
Future Bus Maintenance Bays (1) w/ mech. pit (1) standard	0		2,760 sf
Total sf:	10,098 sf (net)		16,703 sf (net)

PUBLIC WORKS BUILDING #2

FUNCTION	CURRENT PROGRAM	CURRENT NEED	10-YEAR PROGRAM
Water Dept. Storage	550 sf		550 sf
Public Works Storage	3,610 sf		3,610 sf
Total sf:	4,160 sf (net)		4,160 sf (net)

PUBLIC WORKS BUILDING #3

FUNCTION	CURRENT PROGRAM	CURRENT NEED	10-YEAR PROGRAM
Grader	570 sf		570 sf
Gen. Equipment Storage	1,015 sf		1,015 sf
Parks Storage	1,015 sf		1,015 sf
Police Storage	1,000 sf		1,000 sf
Sewer Room	335 sf		335 sf
Toilet	40 sf		40 sf
Compressor Room	160 sf		160 sf
Total sf:	4,135 sf (net)		4,135 sf (net)

TRANSIT WASH

FUNCTION	CURRENT PROGRAM	CURRENT NEED	10-YEAR PROGRAM
Transit Wash Station	1,386 sf		1,386 sf
Total sf:			1,386 sf

(UNDER CONSTRUCTION) VEHICLE STORAGE

FUNCTION	CURRENT PROGRAM	CURRENT NEED	10-YEAR PROGRAM
Bus Storage	0 sf		3,850 sf
Van Storage	0 sf		2,133 sf
Total sf:	0 sf		5,983 sf

(FUTURE) PUBLIC WORKS BUILDING #1

FUNCTION	CURRENT PROGRAM	CURRENT NEED	10-YEAR PROGRAM
Equipment Storage	0 sf		2,816 sf
Total sf:	0 sf		2,816 sf

(FUTURE) PUBLIC WORKS BUILDING #4

FUNCTION	CURRENT PROGRAM	CURRENT NEED	10-YEAR PROGRAM
Equipment Storage	0 sf		4,320 sf
Total sf:	0 sf		4,320 sf

(FUTURE) COVERED WET SPOILS AREA

FUNCTION	CURRENT PROGRAM	CURRENT NEED	10-YEAR PROGRAM
Covered Wet Spoils Area	0 sf		2,500 sf
Total sf:	0 sf		2,500 sf

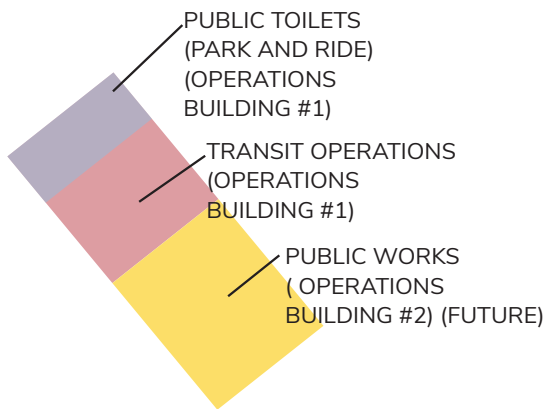
(FUTURE) MISC. STORAGE, SIGNS, POLICE STORAGE, AND FUEL STATION AREA

FUNCTION	CURRENT PROGRAM	CURRENT NEED	10-YEAR PROGRAM
Misc storage	0 sf		6,240 sf
Fueling Station	0 sf		1,320 sf
Total sf:	0 sf		7,560 sf

(FUTURE) VEHICLE MAINTENANCE / BUS STORAGE

FUNCTION	CURRENT PROGRAM	CURRENT NEED	10-YEAR PROGRAM
Future Bus Storage	0 sf		3,845 sf
Future Bus Maintenance (1) mech. pit bay (1) standard bay	0 sf		2,760 sf
Total sf:	0 sf		6,605 sf

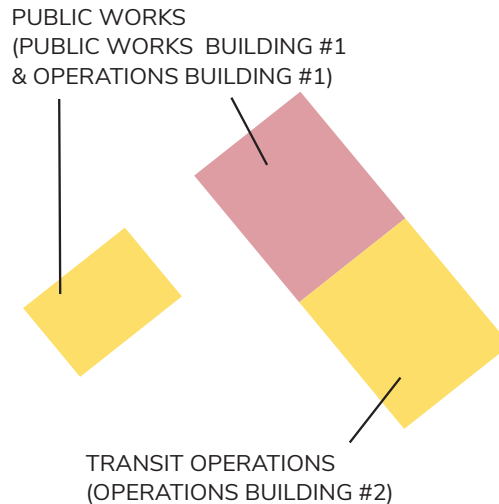




FUTURE TRANSIT / PUBLIC WORKS ORGANIZATION OPTION A

Option A Scenario:

With the construction of a new facility (Operations Building #2), Public Works would move into the new building and Transit Operations would expand its program into the existing building with some remodeling to the existing facilities to accommodate the new program. Changes to the existing building would include additional public restrooms near the front entry of the building to accommodate Park and Ride visitors, and to separate public functions from secure areas. Showers in existing restrooms could be converted to additional toilets to accommodate the high volume during morning and evening check-in / check-out times. The program for the new Public Works building (Operations Building #2), would house a large classroom / training space which would be shared by both departments as needed, whereas the other functions of the building would be primarily for Public Works, including office areas, mudroom, showers, lockers, toilets, laundry room, breakroom, and workspace areas.



FUTURE TRANSIT / PUBLIC WORKS ORGANIZATION OPTION B

Option B Scenario:

Park and Ride services for Transit would be relocated to an area in or near downtown which would relieve the pressure on parking and public restroom use in the Transit Operations and Public Works facility. As parking is currently already seeing full capacity regularly with Park and Ride, this option would help alleviate the need for more parking for current and future staff.

A new building (Operations Building #2), would house Transit Operations' current program with expanded offices, breakroom, toilets, and a shared classroom / training area.

This would allow Public Works Admin to expand in the existing Operations #1 building with little remodeling. Public Works building #1 (future) would provide space to accommodate a mudroom, with laundry facilities for the field staff.



MINUTES
City Council Meeting
Monday, June 1, 2020 6:00 PM

COUNCIL PRESENT: Stan Pulliam, Mayor, Jeremy Pietzold, Council President, John Hamblin, Councilor, Laurie Smallwood, Councilor, Jan Lee, Councilor, Carl Exner, Councilor, and Bethany Shultz, Councilor

COUNCIL ABSENT:

STAFF PRESENT: Jordan Wheeler, City Manager, David Doughman, City Attorney, Kelly O'Neill, Development Services Director, Greg Brewster, IT/SandyNet Director, Tyler Deems, Finance Director, Tanya Richardson, Community Services Director, Khrys Jones, Committee Member, Sarah McIntyre, Library Director, Emily Meharg, Senior Planner, David Snider, Economic Development Manager, Pamela Smithsted, Commissioner, Ernie Roberts, Police Chief, and Jeff Aprati, City Recorder

MEDIA PRESENT: Sandy Post

1. MEETING FORMAT NOTE

The Council conducted this meeting electronically using the Zoom video conference platform. A video recording of the meeting is available on the City's YouTube channel: https://www.youtube.com/channel/UCbYEclgC6VW_mV2UJGyvYfg

2. SANDY URBAN RENEWAL AGENCY BOARD MEETING - 6:00 PM

2.1. "Growing Together" Mural - SURA Funding Request

Staff Report - 0271

Note: **Councilor Hamblin** was absent for this portion of the meeting.

Arts Commissioner Smithsted stated that the proposed mural concept was approved by the Arts Commission as well as the City Council. The anticipated benefits of the mural include beautifying a central area of the city across from Centennial Plaza, promoting livability, and attracting visitors. Local businesses who sponsor would have a marketing opportunity. The mural is also anticipated to include lighting that could foster safety in the area after dark. She also indicated that the artist, Becky Hawley, would not benefit financially

from the proposed project - she is donating her time and talents.

Councilor Exner expressed that construction of this mural would send a positive message by showing that Sandy is moving forward and doing things. He said local businesses have already shown support for the idea.

Mayor Pulliam asked about the fundraising strategy. **Becky Hawley** stated that she would donate the design and project management work. Fundraising vehicles would include hand-painted flowers recognizing individual donors and incorporating names or logos into the mural for larger donors (such as on a collar of one of the dogs, or on the shopping bag). She stated 10-12 people have already pledged donations, before any advertising. She reviewed several aspects of the mural budget, which are included in the proposal in the meeting packet. She indicated she has received supportive communications from the building owner. **Ms. Hawley** stated that she hopes to cover a significant portion of the project costs through donations, and her goal would be to use \$13,000 in urban renewal funding at the most. Discussion ensued regarding the disposition of any excess donations and requirements placed on dollars within the Art Fund.

Executive Director Jones expressed concerns related to expending funds in the context of the current pandemic and the acute challenges facing local businesses. **Mayor Pulliam** noted that urban renewal funds were recently used to provide local business support grants.

Ms. Hawley stated that the positive vision of the mural could be a welcome message during this difficult time, and that art is considered a useful economic development tool. **Mayor Pulliam** referred to the benefits seen by the City of Redmond from installing public art.

Councilor Shultz expressed support for the project, and noted that the Friends of the Library recently held a very successful fundraising campaign.

Councilor Pietzold also expressed support for the project, though he stated concerns about using urban renewal funds and stressed the importance of developing a strategic plan for urban renewal spending.

Public Comment:

Kathleen Walker, 15920 SE Bluff Rd: expressed support for the mural concept, but stated her desire for the City to open a public bidding process for the project where other local artists would be able to submit proposals.

Councilor Shultz stated that robust public outreach on this concept has already occurred, including at a public art forum.

Councilor Exner stated that the mural concept has wide appeal in the community, and that it would be a collaborative process. He urged moving forward quickly on the project.

Mayor Pulliam noted the concerns expressed by the Chamber of Commerce, and suggested that fundraising could proceed first, followed by a potential request for funding of any remaining balance.

Councilor Smallwood concurred.

Discussion ensued regarding the building owner's plans for painting the building.

Ms. Hawley stated that for logistical reasons, project funding would need to be solidified by July at the latest.

The consensus of the Board was that fundraising efforts should move forward during June, and the Board would potentially meet again on July 6 to consider a request to cover any remaining costs.

3. CITY COUNCIL WORK SESSION - 6:30 PM

3.1. July 4th Fireworks Display

Staff Report - 0272

Note: **Councilor Hamblin** joined the meeting during this discussion.

Each July 4th, Sandy hosts a fireworks show facilitated by the City and sponsored by Clackamas County Bank. The **Finance Director** stated that the City is at a point where a determination needs to be made regarding whether to proceed with a fireworks show this year in light of the COVID-19 situation. Possible options include proceeding with the event, rescheduling the event, or cancelling the event (which would result in losing the 25% deposit paid to the fireworks vendor). The initial recommendation from staff is to postpone the event for the time being.

Councilor Lee expressed support for staff's recommendation.

Mayor Pulliam stated that social distancing should be possible for such an event, and that it is likely that gatherings will occur during the holiday regardless of the City's decision. He noted that the City's parks are currently open for passive use. He also stressed that the City should be mindful of any concerns from the sponsor.

Councilor Shultz stated her preference that the City postpone the event to avoid being in the situation of having planned and paid for an event that later has to be cancelled due to health requirements.

Councilor Exner expressed frustration with the number of events that have had to be cancelled recently.

Council President Pietzold agreed with the Mayor that this event could successfully incorporate necessary social distancing. He noted that if the event were postponed to later in the summer, the cost could be much lower.

The **Finance Director** stated that all other communities in the area have cancelled their fireworks events, and that a Sandy event could attract a large number of visitors which could lead to virus transmission concerns.

Councilor Smallwood concurred with **Councilor Exner**, and stated that the county may be in Phase 3 by July 4th. She stated that people could effectively social distance while viewing a fireworks show.

Councilor Shultz inquired about the timing of Phase 3. **Councilor Lee** stated that a minimum of 21 days must elapse before a county can move from Phase 2 to 3.

The **City Manager** suggested that if it the Council's direction to continue with this event, staff will explore options to direct residents to view the show from their vehicles, or perhaps set up designated and distanced viewing spaces along with necessary traffic controls.

Councilor Exner further advocated for holding the event, saying it would be an opportunity for the City to set a positive, safe, and responsible example.

Councilor Lee asked about possible liability concerns. The **City Attorney** stated that legal liability concerns are likely to be minimal if the City makes a good faith attempt to ensure safety, though he would like to study the issue further. The **Police Chief** stated that it would be very difficult to enforce 6 feet of separation between everyone, so there would need to be some reliance on

attendees being responsible.

Council President Pietzold stated that because the show can be viewed from miles away, it would be possible to hold the event safely.

Moved by Carl Exner, seconded by Laurie Smallwood

Proceed with holding a fireworks display to celebrate Independence Day, subject to COVID-19 regulations from the Governor's Office.

CARRIED. 5-2

Ayes: Stan Pulliam, Jeremy Pietzold, John Hamblin, Laurie Smallwood, and Carl Exner

Nays: Jan Lee and Bethany Shultz

3.2. Community Center Porte Cochere Repair Project

Staff Report - 0274

The **City Manager** stated that the Facilities Assessment results will be presented to the Council at a work session in the near future, but that this particular project is being brought forward now because of the opportunity to address the building issues while the Community Center is closed due to COVID-19.

The **Economic Development Manager** summarized the staff report (included in the agenda packet). The porte cochere has been determined to be structurally unsound, constituting a safety issue. The needed repairs could be funded through urban renewal or building maintenance funds.

Councilor Pietzold agreed with the idea of performing the repairs while the building is closed to the public. He asked staff how long it has taken to save the balance currently in the building maintenance fund; staff responded it has taken approximately 6 years.

Councilor Exner suggested that the urban renewal facade program could be utilized for some of the expense, but that project elements ineligible for facade funds should be paid for by the City through building maintenance funds, as would be required of any other property owner.

Councilor Lee asked how much would be expended in facade funds; staff estimated the amount to be approximately \$41,500.

The **Development Services Director** stated that facade program funds can also be used for ADA improvements to the building entrance.

Mayor Pulliam noted that long term plans include moving the community center to a different location, and asked what the building might be used for in the future, if and when such a move occurs. He indicated that urban renewal funds could be used to rehab the building for an eventual sale.

Councilor Pietzold concurred that investing in the building makes sense even if the intention is to sell it in the future. He also expressed concerns about the building's ability to withstand major storms.

Moved by Carl Exner, seconded by Jan Lee

Proceed with repairs of the Community Center porte cochere, using urban renewal facade grant funds where appropriate and as approved by the Urban Renewal Board, and building maintenance funds for the remainder.

CARRIED. 7-0

Ayes: Stan Pulliam, Jeremy Pietzold, John Hamblin, Laurie Smallwood, Jan Lee, Carl Exner, and Bethany Shultz

4. CITY COUNCIL REGULAR BUSINESS MEETING - 7:00 PM

5. Pledge of Allegiance

6. Roll Call

7. Changes to the Agenda

8. Public Comment
(none)

9. Consent Agenda

9.1. City Council Minutes - 5/18/2020

9.2. Annual Resolutions

Staff Report - 0270

9.3. Arts Commission and Library Board Term Adjustments

Staff Report - 0273

9.4. Grant Agreement to Receive COVID-19 Relief Funds for SAM

Staff Report - 0275

Moved by Jeremy Pietzold, seconded by Bethany Shultz

Staff Report - 0275

Adopt the Consent Agenda as presented

CARRIED. 7-0

Ayes: Stan Pulliam, Jeremy Pietzold, John Hamblin, Laurie Smallwood, Jan Lee, Carl Exner, and Bethany Shultz

10. New Business

10.1. Quasi-Judicial Hearing: Land Use File #20-016 AP - Sandy Vault Major Modification Appeal

14 - 30

Staff Report - 0269

Abstentions from the Hearing Body:

none

Conflicts of interest from the Hearing Body:

none

Ex parte contact declarations:

Mayor Pulliam has had a variety of conversations with Mark Benson over the years, all of which have been general and have not involved any details of this particular project.

Councilor Pietzold met with Mr. Benson in August 2019 and walked around the Tractor Supply property.

Councilor Exner talked with Mr. Benson in fall 2019 and discussed big-picture matters in general. He has visited the Sandy Vault property.

Councilor Smallwood made the same declaration as Councilor Pietzold.

Councilor Shultz has exchanged emails with Mr. Benson but nothing relevant to this proposal was discussed.

Councilor Hamblin has exchanged emails with Mr. Benson and has visited the subject property, but has not met with Mr. Benson in person.

The **City Attorney** asked whether any member of the Council has had any ex parte contacts specifically after the recent appeal was filed. **Mayor Pulliam** stated that Mr. Benson informed him he appeared before the Planning Commission and appealed their decision to the Council, but they did not discuss the details of the application.

Challenges to the Hearing Body:

none

Staff Report:

The Senior Planner summarized the staff report included in the agenda packet. Her PowerPoint presentation slides are attached to these minutes.

Applicant Presentation:

Tim Brunner, Axis Design Group, 11104 SE Stark St, Portland, OR, delivered the applicant's presentation on behalf of Mr. Benson. Mr. Brunner stated that the proposed buildings would sit far back from Hwy 26, and that the metal siding used would be horizontal and of high quality, painted with colors to fit in with Sandy Style. He stated that Champion Way would be the main focus of the site, and that the complex would not be visibly prominent for people entering the city. He stated that incorporating too many windows into storage units would create significant security concerns. He stressed their intention to meet Sandy Style in a reasonable way, putting dollars where it counts including public plaza space, landscaping, and awnings along the abutting public street (Champion).

Public Comment:

Comments in Favor:

none

Comments Opposed:

Kathleen Walker, 15920 SE Bluff Rd: she submitted written testimony before the meeting which is included in the agenda packet. She urged the Council to deny any additional variances beyond those approved in land use file 18-047. She stressed the importance of adhering to Sandy Style, and indicated that the buildings would be visible at the entrance to the town for decades. She shared photos of storage facilities in other cities that incorporate more aesthetically pleasing design features.

Nancy Becker, 14585 Bluff Rd: agreed with Ms. Walker, and urged the Council to uphold the code and deny any additional variances.

Greg Becker, 14585 Bluff Rd: agreed with Ms. Walker, and stated that codes are pointless if variances are continually granted.

Andrea Bacon, 12721 SE 352nd Ave, Boring: agreed with Ms. Walker, and stated that if the City continually grants variances, Sandy will eventually look more like Portland or Gresham. She stated that regardless of the view from Hwy 26, many other residents would view the new structures from other local roads on their way to the movie theater, church, etc.

Neutral Comments:

none

Staff Recap:

Staff indicated that the applicable code section was the result of a multi-year legislative effort with substantial input. The variances approved with the original proposal, along with the additional three recently granted by the Planning Commission, represent an unprecedented volume of variances. The Council has the authority to grant additional variances, but staff recommends the Council consider the precedent set by granting so many variances.

Applicant Rebuttal:

Mr. Benson indicated that the example buildings provided by Ms. Walker were built in communities with higher average incomes, and that such buildings would not be economically feasible in Sandy. He stressed that he is using local vendors and banks for this project, and stated that the local banks had informed him they would not provide financing for more expensive structures. He stated he recently sold a gas station in the city because the taxes and mortgage were too expensive. Mr. Brunner urged the Council to approve the intention to focus the design investments on the portions of the building abutting the public roads. He agreed that the photos supplied by Ms. Walker were not applicable because they are different building types in different communities with different economic models.

--PUBLIC HEARING CLOSED--

Council Discussion:

Mayor Pulliam stated that Mr. Benson purchased the property before Sandy Style was enacted.

Councilor Lee stated the new design proposal looks substantially and unattractively different compared to the original proposal.

Councilor Exner supports Sandy Style, and is concerned that granting too many variances eventually dilutes the intended look. He expressed concern about creating precedents for future projects. He did not think the site was especially visible from Hwy 26. He agreed with upholding the most recent Planning Commission decision.

Councilor Pietzold indicated that a large majority of property owners in the area purchased their property before Sandy Style was adopted. He stated that many property owners were engaged and provided input before the requirements were approved. He also stated that Sandy Style applies to other areas in addition to those immediately adjacent to Hwy 26. He supported upholding the recent decision of the Planning Commission.

Councilor Smallwood agreed with **Councilor Pietzold**. She expressed support for Sandy Style and believes the variances already granted are fair. She supported upholding the recent decision of the Planning Commission.

Councilor Shultz concurred with **Councilor Smallwood**.

Mayor Pulliam stated that this is how the process is supposed to work; codes are developed and put into practice, and those who are dissatisfied are welcome to come to the Planning Commission and or City Council to request exceptions. Nothing being requested was outside the scope of the normal process.

Moved by Jeremy Pietzold, seconded by John Hamblin

Close the public hearing

CARRIED. 7-0

Ayes: Stan Pulliam, Jeremy Pietzold, John Hamblin, Laurie Smallwood, Jan Lee, Carl Exner, and Bethany Shultz

Moved by Jan Lee, seconded by Laurie Smallwood

Uphold the decision of the Planning Commission.

CARRIED. 7-0

Ayes: Stan Pulliam, Jeremy Pietzold, John Hamblin, Laurie Smallwood, Jan Lee, Carl Exner, and Bethany Shultz

[Staff PowerPoint Presentation - Sandy Vault Modification Appeal - 6.1.20](#)

11. Report from the City Manager

The **City Manager** raised the topic of when to resume in-person meetings for the Council and advisory bodies. He posed the idea of a hybrid approach with some members of the Council and public attending in-person in the Council Chambers and others attending remotely.

Councilor Pietzold stated that hybrid meetings are difficult, particularly for the participants attending remotely.

Councilor Exner suggested that those at higher risk of contracting COVID-19 could be the ones to attend remotely. He also raised the idea of meeting in a different building with more room for distancing.

Mayor Pulliam stated his preference that everyone should participate through the same medium. He stated that while some members of the public would prefer to attend meetings in-person, others are more easily able to participate under the remote meeting framework.

Councilor Lee agreed that everyone should participate the same way.

Councilor Shultz agreed. She added that because boards and commissions are likely to follow the Council's lead, it is important to set an example that emphasizes the safety of these volunteers.

The **City Manager** indicated that the Library is looking toward an opening in Phase 2, and that the City is working with a local business to source and install germ barriers, signs, and decals. Capacity limits will be applied. The Municipal Court will resume operating on June 8; plans have been developed to facilitate safety. Local businesses are able to receive free consultations from OSHA regarding requirements and safe operations.

Mayor Pulliam asked whether businesses are experiencing difficulties procuring plexiglass or similar materials. Staff will look into this and provide an answer.

Councilor Exner stated that his business is having some trouble finding disinfectant supplies, and that others may be waiting for Phase 2 to reopen.

The **Development Services Director** stated that outdoor seating regulations have

been loosened. The **City Manager** indicated that face coverings will not be required to be worn by the public within reopened City facilities, though they will be strongly encouraged. He also stated that a tour of the Bull Run Powerhouse will occur on Tuesday, and that work is proceeding on the 362nd and Bell project and a preliminary alignment is forthcoming.

12. Committee /Council Reports

Councilor Shultz mentioned the recent Library Board meeting. They intend to reopen in Phase 2 with a 25 person maximum capacity, including staff (they estimate that they had about 75 patrons per hour prior to the pandemic). The new operation model will focus on getting people in and out as efficiently as possible. She praised the Library staff, which pioneered curbside pickup and has developed a number of online engagement tools.

Councilor Exner asked about the current Arts Commission vacancy. He mentioned that virtual meetings tend to last longer than in-person meetings, and that some Council members may not be raising issues during Council Reports due to the late hour. He thanked staff for their efforts to loosen outside seating regulations during COVID-19, and for the development of the e-newsletter. He expressed concerns about uninformed criticism of the City on social media, and encouraged staff to proactively communicate about the good work the City is doing.

Councilor Lee recently met with the County's Budget Committee. The Resiliency Committee has met twice and is actively inventorying plans; grant funds have been secured to assist with broader planning. C-4 will discuss the County's employment plan.

Councilor Pietzold praised staff for the new e-newsletter, saying that he has heard positive reviews from community members.

Mayor Pulliam praised local businesses for their efforts to reopen in a responsible manner. He mentioned his upcoming meeting with Trackers, along with **Councilor Exner**. He also commended staff on the e-newsletter, as well as recent social media communications. He expressed his desire to have a sign installed at the intersection of Hwy 211 and Proctor notifying drivers that left turns onto the one-way street are permitted on red.

13. Staff updates

13.1. [Monthly Reports](#)

14. Adjourn

15. CITY COUNCIL WORK SESSION - AFTER REGULAR MEETING ADJOURNMENT

- 15.1. Work Session on June 15 Agenda Items: Adding Gunderson Road to CIP and Chapter 15.28 Code Amendments (SDC Credits)

The **City Manager** stated that this work session could serve as an opportunity for Council members to discuss or ask questions about items on the June 15 agenda related to the Bailey Meadows subdivision, including making amendments to the code related to System Development Charges (SDCs) and amending the Capital Improvement Plan (CIP).

The **City Attorney** stated that generally speaking, SDCs are collected to fund projects in the CIP. In order to grant SDC credits, as is provided in the Gunderson Road development agreement, the project must be listed in the CIP. At the June 15 meeting, staff will recommend this addition. In addition, staff will bring a proposed amendment to SMC 15.28 to allow for SDC credits to be transferred to third parties. Staff also offered to forward example code language from the City of Tigard.

Councilors Smallwood and **Hamblin** indicated they would be unable to attend the next meeting.

Councilor Shultz asked whether, with the approval of the subdivision application and development agreement at the previous meeting, these proposed actions have to happen. **Mayor Pulliam** stated that while these decisions are closely related, there are additional reasons to take these actions beyond the Bailey Meadows development, such as acquiring jurisdiction over Hwy 211.

Mayor, Stan Pulliam

City Recorder, Jeff Aprati

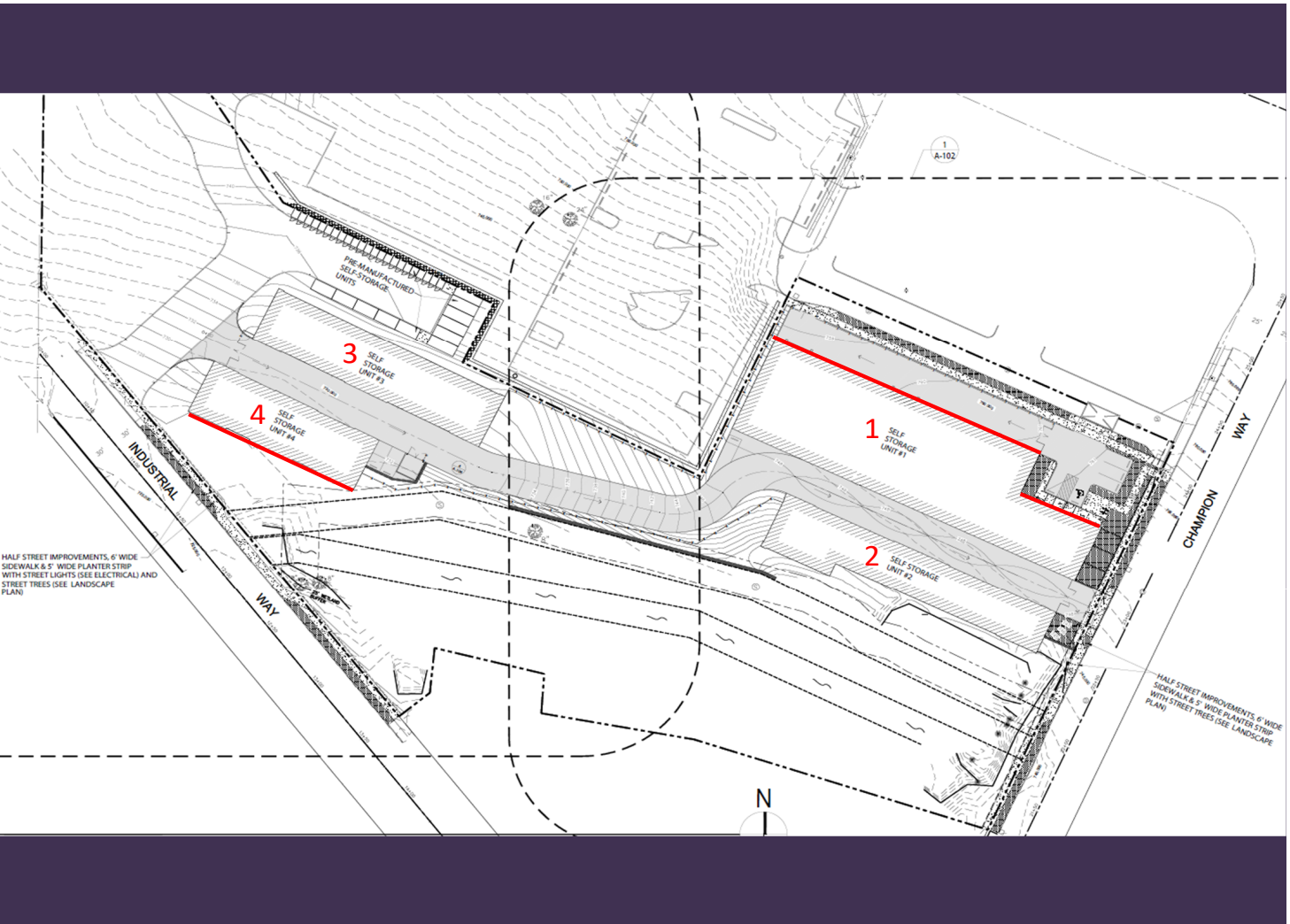
**Sandy Vault Storage Major
Modification Appeal**

City Council Meeting 6/1/2020

SANDY VAULT STORAGE VICINITY MAP



Zone: I-1,
Industrial Park



Background

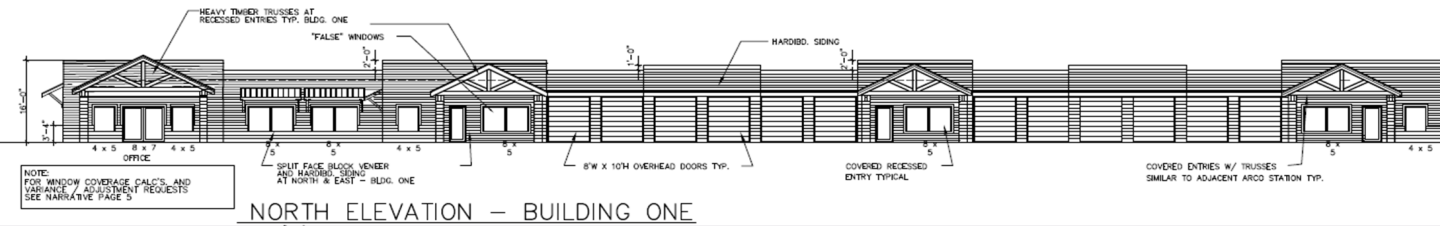
- File 18-047 DR/VAR/ADJ – Design Review application for self-storage facility with 9 requested adjustments, variances, and deviations
- File 19-046 MOD/VAR/DEV – Major Modification application to previous design review approval with 3 additional variance and deviation requests
- File 20-016 AP – Appeal of the Major Modification application Planning Commission decision

Major Modification Request

- Major modification to the approved storage facility design (File 18-047 DR/VAR/ADJ), including the following requests:
 - Type III Special Variance to Section 17.90.120(B.3.d.4) to increase the percentage of metal siding on Buildings 1-4 to 80 percent;
 - Type III Special Variance to Section 17.90.120(E.2) to reduce the required window coverage for Buildings 1 and 4; and,
 - Type III Design Deviation to Section 17.90.120(D.7) to reduce the activated frontages on Buildings 1 and 4 as previously identified and approved by Planning Commission.

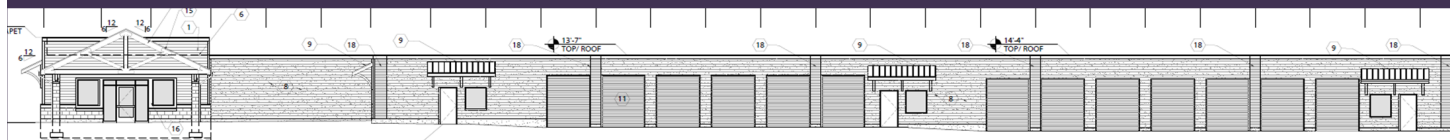
North Elevation – Building 1 Percent Metal

18-047 Design Review



- 0% metal (aside from doors)

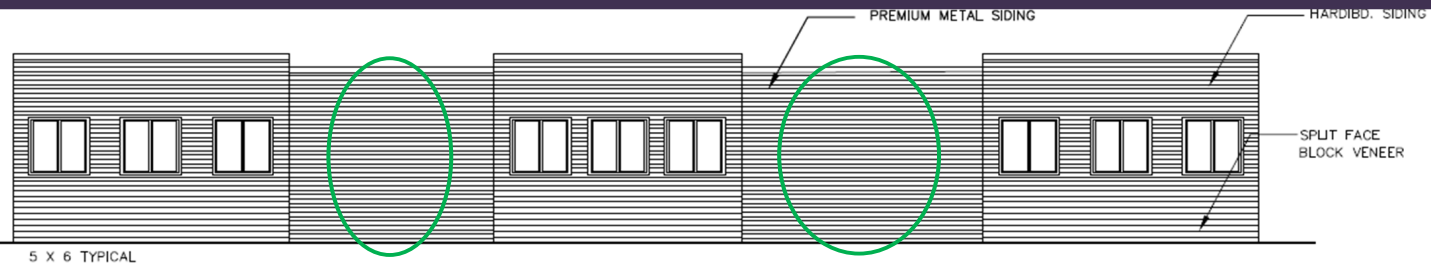
19-046 Major Modification



- 47% metal

South Elevation – Building 4 Percent Metal

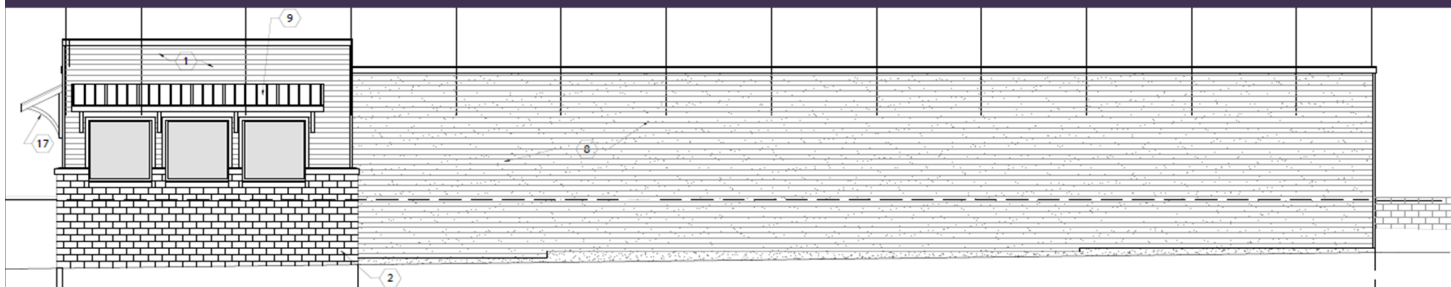
18-047 Design Review



SOUTH ELEVATION BUILDING FOUR & FIVE

- 36% metal
- PC approved a Type II Adjustment to allow 36 percent metal siding on the south elevations of Building 4 and provided the applicant detail landscaped trellises in the two proposed sections of metal siding on the south elevation of Building 4.

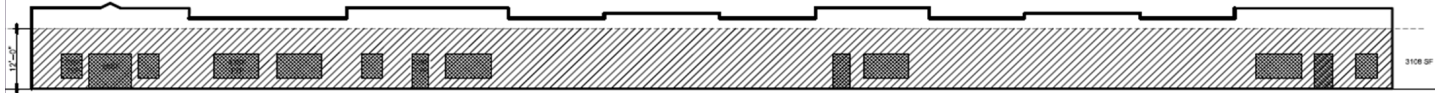
19-046 Major Modification



- 70% metal

North Elevation – Building 1 Percent Windows

18-047 Design Review



7 NORTH ELEVATION BUILDING 1

SCALE: 1/16" = 1'-0"

- 13% windows
- Code requirement is 20%

19-046 Major Modification



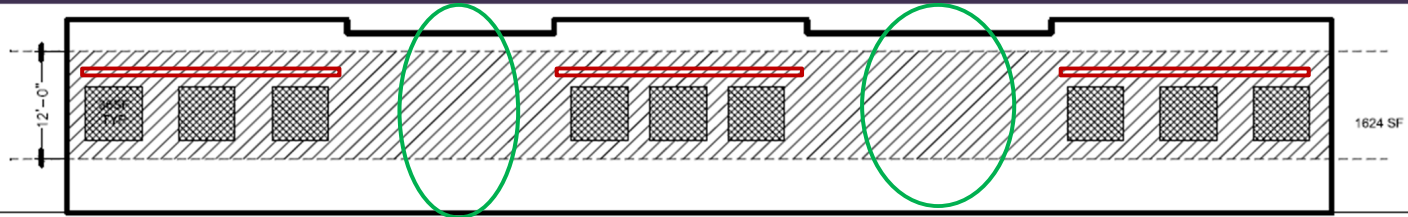
6 NORTH ELEVATION BUILDING 1

SCALE: 1/16" = 1'-0"

- 7.3% windows
- Code requirement is 20%

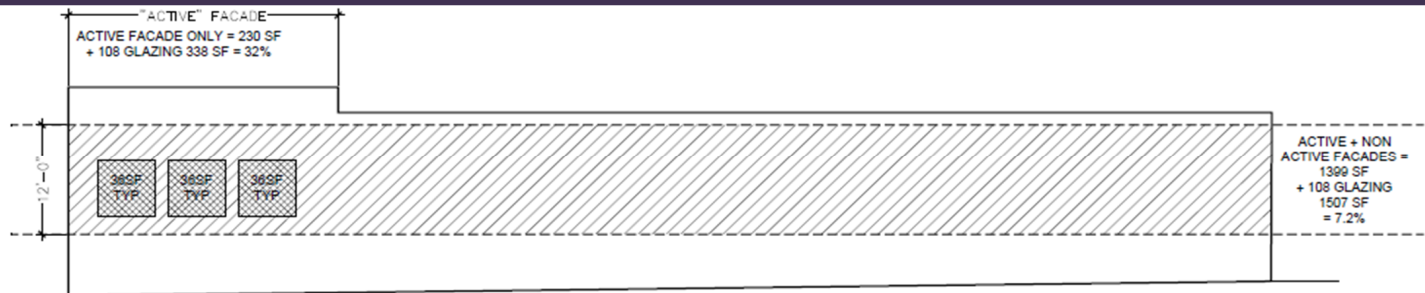
South Elevation – Building 4 Percent Windows

18-047 Design Review



- 20% windows; code requirement is 30%
- PC approved provided the applicant detail metal awnings above the proposed windows and landscaped trellises in the two proposed sections of metal siding on the south elevation of Building 4

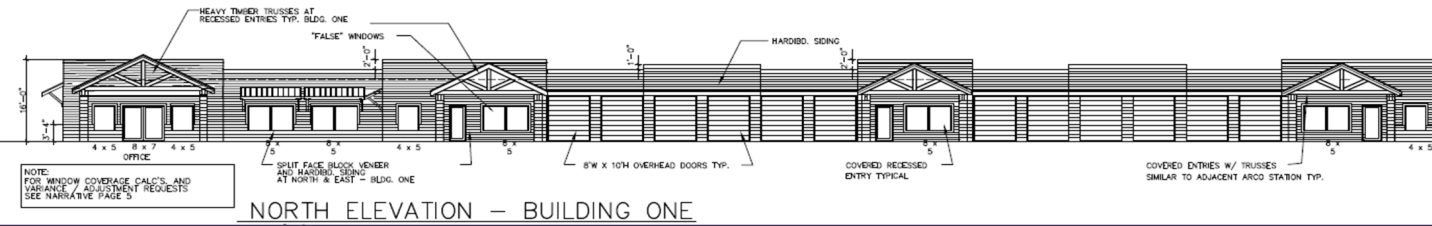
19-046 Major Modification



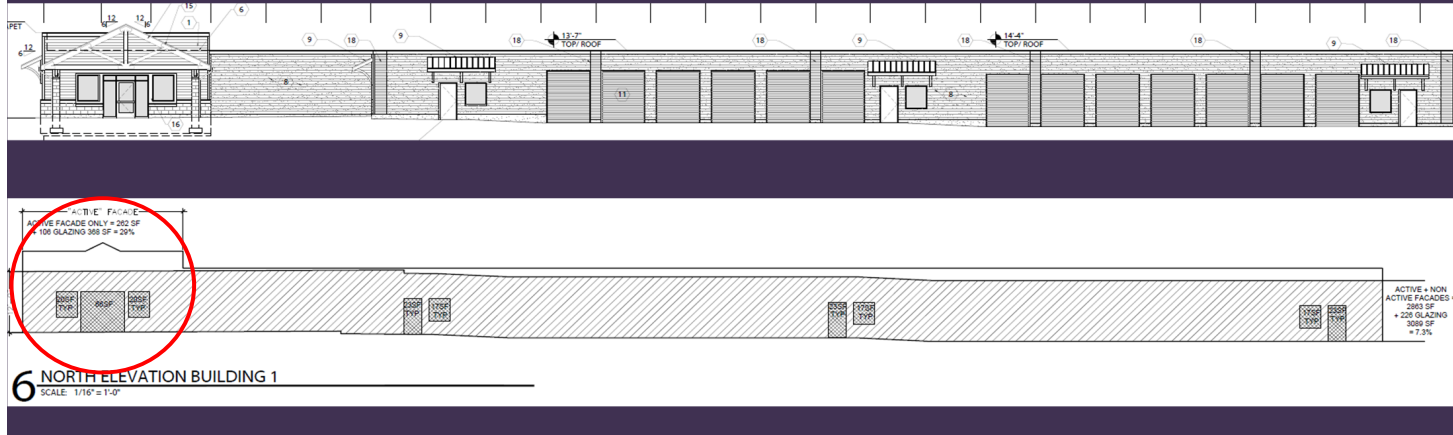
- 7.2% windows; code requirement is 30%

North Elevation – Building 1 Activated Frontage

18-047 Design Review

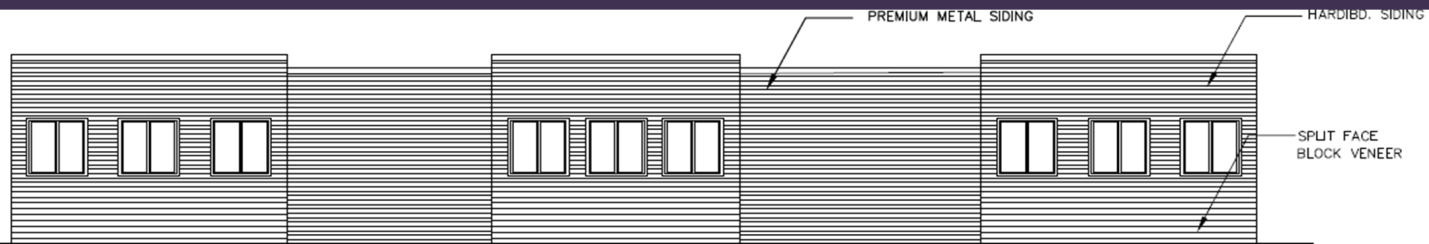


19-046 Major Modification

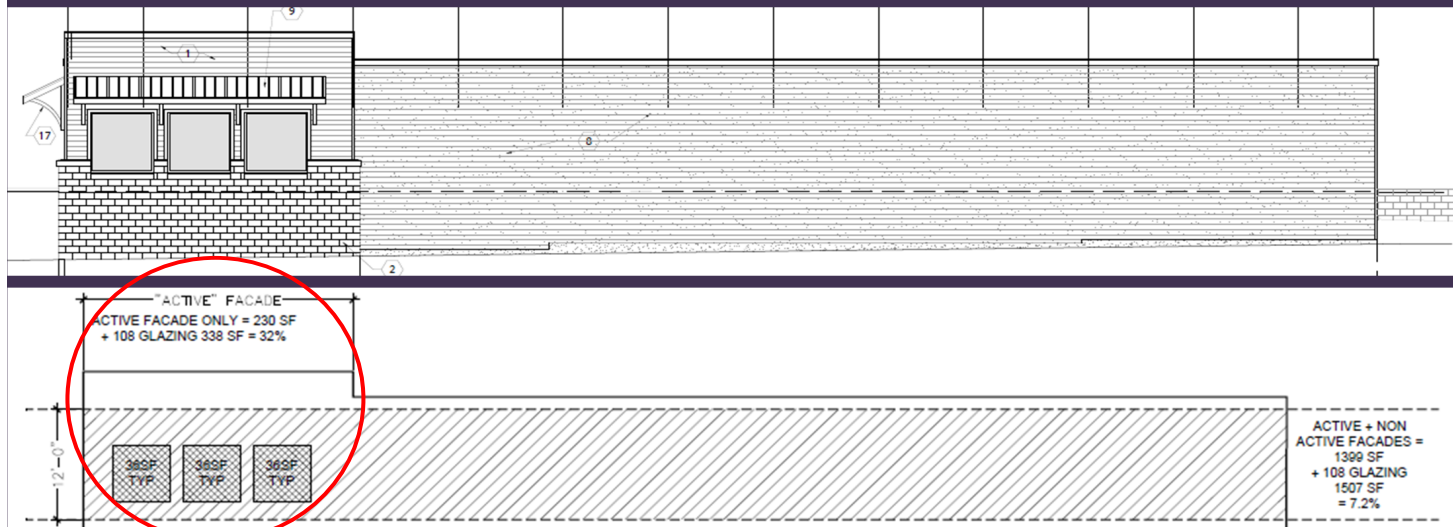


South Elevation – Building 4 Activated Frontage

18-047 Design Review



19-046 Major Modification



Major Modification Request

- The applicant also proposed to add 34 new modular units to the site. That request would be processed as a separate design review; however, the applicant opted to not provide the information and fees that would be needed to process that request nor did the applicant request variances or deviations to Chapter 17.90 for the modular units so neither staff nor the Planning Commission could evaluate these structures as part of 19-046 MOD/VAR/DEV.

Planning Commission Major Modification Decision

- The applicant's request to place 34 new modular storage units on the subject property was not reviewed as part of this application as the applicant did not submit a design review application for the modular units.
- The applicant's request for a Special Variance to decrease the percent of windows on the north elevation of Building 1 and the south elevation of Building 4 is **denied**.
- The applicant's request to reduce the amount of activated frontages such that only a small portion of the north frontage of Building 1 and a small portion of the frontage of Building 4 be considered activated is **denied**.

Planning Commission Major Modification Decision

- The applicant's request to increase the percent metal for the following elevations is **approved**:
 - Building 1 South Elevation
 - Building 1 West Elevation
 - Building 2 North Elevation
 - Building 2 East Elevation
 - Building 2 West Elevation
 - Building 3 South Elevation
 - Building 3 East Elevation
 - Building 4 North Elevation, provided the parapet height stays the same on the west end of Building 4 as the south elevation
 - Building 4 East Elevation

Planning Commission Major Modification Decision

- The following elevations shall remain as previously approved in File No. 18-047:
 - Building 1 North Elevation
 - Building 1 East Elevation
 - Building 2 South Elevation
 - Building 3 North Elevation
 - Building 3 West Elevation
 - Building 4 South Elevation
 - Building 4 West Elevation

Applicant's Appeal of PC Major Modification Decision

- Applicant's appeal narrative cites:
 - Section 17.90.120(B.1), which specifies articulation requirements
 - Section 17.90.120(B.3.f), which requires building materials to turn the corner
- Neither section was reviewed as part of the major modification application.
- Applicant's appeal narrative did not mention any of the 3 code sections reviewed as part of the major modification application.
- Staff is unsure what the basis of the appeal is; the applicant appears to be appealing the major modification application based on code sections that were not reviewed as part of the major modification application.

Recommendation

Staff recommends the City Council do one of the following:

- Approve some of the applicant's requests in the major modification application with conditions as outlined in the Planning Commission final order dated May 1, 2020.
- Deny the major modification requests since they are not in compliance with the relevant design standards and revert back to the original 18-047 DR/VAR/ADJ approval, which included approval of 9 adjustments, variances, and design deviations. (public comment in support)



Staff Report

Meeting Date: June 15, 2020

From Kelly O'Neill, Development Services Director

SUBJECT: 20-001 ANN/CPA ZC - Gunderson Road & Parkland Staff Report

Background:

The applicant, Allied Homes and Development, proposes to annex 6.42 acres to meet a need for certain public facilities (a minor arterial road and parkland). The applicant proposed a comprehensive plan designation of Low Density Residential and Parks and Open Space, and a zoning designation of Single Family Residential (SFR) for the roads and associated facilities totaling 4.04 acres and Parks and Open Space (POS) for the 2.38 acre park.

Recommendation:

The Planning Commission recommends the City Council approve Ordinance No. 2020-11. Consistent with the application and the Planning Commission's recommendation, the ordinance contains a condition that limits the future uses of the 4.04 acres zoned SFR to right-of-way and utility uses and associated facilities to support such uses.

Code Analysis:

See attached staff report.

SUBJECT: File No. 20-001 ANN/CPA/ZC Gunderson Road & Parkland Annexation

AGENDA DATE: June 15, 2020

DEPARTMENT: Development Services Department

STAFF CONTACT: Kelly O’Neill Jr., Development Services Director

EXHIBITS:

Applicant’s Submittals:

- A. Land Use Application
- B. Supplemental Land Use Application Form No. 1
- C. Supplemental Annexation Land Use Application Form No. 2
- D. Written Consent Form
- E. Narrative
- F. Vicinity Map
- G. Legal Description and Maps
- H. Transportation Impact Analysis
- I. Warranty Deed

Agency Comments:

None

Public Comments:

- J. Kathleen Walker (May 27, 2020)

Additional Items since Planning Commission:

- K. Staff Report for Planning Commission (May 27, 2020)

I. BACKGROUND

A. PROCEEDING

Type IV Annexation, Comprehensive Map Change, and Zoning Map Change

B. FACTUAL INFORMATION

- 1. APPLICANT: Allied Homes & Development
- 2. OWNERS: Lawrence Pullen, Richard Pullen, and Sherrene TenEyck
- 3. PROJECT NAME: Gunderson Road & Parkland Annexation
- 4. LEGAL DESCRIPTION: T2S R4E Section 23 Tax Lot 701

5. PROPERTY LOCATION: North of Highway 211 and South of Ponder Lane
6. PROPOSED AREA: 6.42 acres
7. PROPOSAL: The applicant, Allied Homes and Development, proposes to annex 6.42 acres to meet a need for certain public facilities (a minor arterial road and parkland). The applicant proposed a comprehensive plan designation of Low Density Residential and Parks and Open Space, and a zoning designation of Single Family Residential (SFR) for the roads and associated facilities totaling 4.04 acres and Parks and Open Space (POS) for the 2.38 acre park.
8. CITY COMPREHENSIVE PLAN DESIGNATIONS: Low Density Residential, Parks & Open Space
9. COUNTY COMPREHENSIVE PLAN DESIGNATION: Agriculture (AG)
10. CITY ZONING DISTRICT DESIGNATIONS: Single Family Residential (SFR), Parks & Open Space (POS)
11. COUNTY ZONING DISTRICT DESIGNATION: Exclusive Farm Use (EFU)
12. RESPONSE FROM GOVERNMENTAL AGENCIES, UTILITY PROVIDERS, CITY DEPARTMENTS AND THE GENERAL PUBLIC: Kathleen Walker on May 27, 2020

C. APPLICABLE CRITERIA: Sandy Development Code: 17.12 Procedures for Decision Making; 17.18 Processing Applications; 17.22 Notices; 17.24 Comprehensive Plan Amendment Procedures; 17.26 Zoning District Amendments; 17.32 Parks and Open Space (POS); 17.34 Single Family Residential (SFR); 17.78 Annexation; 17.86 Parkland and Open Space.

D. BACKGROUND INFORMATION

The purpose of the UGB expansion is to accommodate Gunderson Road and parkland to the south of Bailey Meadows to fulfill anticipated conditions of approval from the Bailey Meadows land use application. The alignment for Gunderson Road is located on property (Tax Map 24E23 Tax Lot 701) that is located outside of Sandy’s City limits and UGB. The subject property is currently designated Exclusive Farm Use (EFU) by Clackamas County, but is within the City of Sandy’s Urban Reserve Area (URA). Under Oregon law, lands designated URA are “first priority” lands to be included in a UGB expansion. The portion of the property that is anticipated within the amended UGB is limited to areas necessary for parkland and land to construct the Gunderson Road extension, including land for the roadway, associated storm drainage improvements, accompanying utilities, grading, etc.

UGB expansions are subject to both city approval and county approval. On February 11, 2020 the Planning Commission recommended approval of the UGB expansion to the City Council. On March 2, 2020 the City Council passed Ordinance No. 2020-03 approving the

expansion of the UGB. Then on March 9, 2020 the Clackamas County Planning Commission recommended approval of the UGB Expansion to the Clackamas County Board of Commissioners. On June 3, 2020 the Clackamas County Board of Commissioners unanimously approved the UGB expansion with a vote of 5:0. The Board of Commissioners anticipates adoption of an ordinance related to the UGB expansion on June 11, 2020.

The areas being considered with this annexation are detailed in Exhibit G as follows:

Area 1 - Parkland Area: 2.38 acres

Areas 2 and 6 - Permanent Slope Easement/Temporary Construction Easement Area: 30,970 square feet

Area 3 - Public Right-of-Way Dedication (for Gunderson Road): 1.02 acres

Area 4 - Public Utility Easement: 4,802 square feet

Area 5 - Stormwater Facility: 30,143 square feet

Area 7 - Highway (211) Area: 2.05 acres

As explained by the applicant if you add the square footage and acreage, the sum is greater than 6.42 acres because Areas 2 and 4 overlap and are included within Area 1. The total acreage is the same when Areas 2 and 4 are removed from the equation.

E. PROCEDURAL CONSIDERATIONS

This request is being processed under a Type IV quasi-judicial review. Notification of the proposal was mailed to property owners within 500 feet of the subject property and to affected agencies on April 22, 2020. Notification of the proposal was sent to the Department of Land Conservation and Development (DLCD) on April 21, 2020 and a legal notice was published in the Sandy Post on May 6, 2020.

F. PLANNING COMMISSION DECISION

On May 27, 2020 the Planning Commission reviewed the subject request at a public hearing and forwarded a recommendation to the City Council for final decision on this request. The Planning Commission motion was as follows:

Motion to forward a recommendation of approval for 20-001 ANN/CPA/ZC Gunderson Road and Parkland Annexation. The recommendation was subject to two conditions: (1) the Clackamas County Board of Commissioners approving the UGB expansion; and (2) a condition limiting the future uses of the 4.04 acres zoned SFR to right-of-way and utility uses and associated facilities to support such uses.

Moved By: Commissioner Mayton

Seconded By: Commissioner Maclean-Wenzel

Yes votes: Commissioners Carlton, Lesowski, Maclean-Wenzel, Logan, Mayton, and Crosby.

No votes: None

Abstentions: None

The motion passed at 8:01 p.m.

II. ANALYSIS OF CODE COMPLIANCE

1. Chapter 17.24 Comprehensive Plan Map Amendment

The applicant is not seeking to add land for additional residential, commercial or industrial development. Approving the proposed annexation would only allow a road and public parkland. The land is currently designated Urban Reserve, but the Clackamas County Board of Commissioners is considering a UGB Expansion on June 3, 2020.

Section 17.24.70 contains the review criteria for a comprehensive plan amendment. Criterion A states: "The change being proposed is the best means of meeting the identified public need" and Criterion B states: "The change conforms to all applicable Statewide Planning Goals." The purpose of the annexation proposal is to provide a second access to the proposed subdivision via Gunderson Road and to provide parkland, both of which are intended to meet an identified public need. The TSP details Gunderson Road connecting to Highway 211 and the Parks Master Plan details a conceptual park location in close proximity to the proposed parkland. The proposed annexation conforms to the Sandy Comprehensive Plan goals, which reflect the Statewide Planning Goals. Per the applicant's narrative, the application is consistent with the following goals:

Goal 1, Policies 1, 2, and 4: Per the narrative "The City of Sandy has an established citizen involvement program. The application will be processed according to Chapter 17.12 of the LDC, which involves public notification, public hearings, and decision appeal procedures, as established in City of Sandy LDC Section 17.12.30 and 17.12.40. Therefore, the application is consistent with Goal 1."

Goal 2, Policy 2: Per the narrative "Changes to the Comprehensive Plan Map are consistent with SDC Chapter 17.12 and the applicable policies of the Comprehensive Plan, as detailed in this written narrative. Consistency with applicable State statute and rules and the Urban Growth Management Agreement (UGMA) between City of Sandy and Clackamas County have been addressed in this document. Therefore, Policy 2 above is met."

Goal 2, Policy 14: Per the narrative "The alignment of the extension of Gunderson Road to OR 211, a proposed plan element in the City's TSP, is conceptual. The actual location should be determined through the development process, as outlined above. To provide this public transportation facility improvement, the road should be extended to match the conceptual alignment in the Sandy TSP. However, due to geometrical issues, safety concerns, and potential for transportation hazards, the alignment illustrated in the Sandy TSP is not practicable for construction. This application provides for a solution to extend Gunderson Road and determine the actual functionable location through site analysis and development review. The location shown in Exhibit C can be improved to provide the required site characteristics and execute the extension of the transportation network to satisfy the needs of citizens in the general area. Please see the TIA and Supplemental Materials of Exhibit C for further details. Additionally, according to the Sandy Parks Master Plan adopted May 15, 1997, there is not a conceptual location for a park on or near the subject site. Therefore, the location for the improvement should be determined through the

development process. Though parkland dedication is not required of the Bailey Meadows Subdivision application, the Applicant is providing it and it must be brought within the Sandy UGB and annexed to allow for it. Policy 14 above is met.”

Goal 6: Per the narrative “The City’s Comprehensive Plan with respect to Goal 6 and its development regulations governing land, air, and water quality are not affected by the decision. The intent of extending Gunderson Road to OR 211 is to enhance neighborhood circulation and provide local parkland, thereby reducing congestion and delay in the area. This mitigates localized pollution impacts of vehicle activity in the area.”

Goal 8, Policies 1, 2, and 10: Per the narrative “According to the Sandy Parks Master Plan adopted May 15, 1997, there is not a conceptual location for a park on or near the subject site. Therefore, the location for the improvement should be determined through the development process. Though parkland dedication is not required of the Bailey Meadows Subdivision application, the Applicant is providing it and it must be brought within the Sandy UGB and annexed to allow for it. The City’s Comprehensive Plan with respect to Goal 8 above is met.”

Goal 11: Per the narrative “The City’s Comprehensive Plan contains an acknowledged Goal 11 element that includes policies to ensure sufficient and adequate public services are available (or will be available as appropriate) to serve lands within the UGB. The property north of the subject site, Bailey Meadows Subdivision, was found to be sufficiently served by public services at the time it was annexed into the City in June 2017. This application involves amending the City’s UGB to permit the extension of a public transportation facility (i.e., Gunderson Road) to allow for a future connection to OR 211. If approved, the extension is intended as an additional access to the subdivision and to distribute traffic from local streets to the surrounding area. The extension is not required for subdivision approval. Additionally, providing parkland on the northeast portion of Tax Lot 701 will enhance quality of life for the residents in the area. The parkland dedication is not required for subdivision approval. Goal 11 is satisfied”

Goal 12, Policy 1: Per the narrative “This application involves the extension of a public transportation facility (i.e., Gunderson Road) to allow Bailey Meadows Subdivision a future connection to OR 211, as illustrated in the City of Sandy TSP. If approved, the extension is intended as an additional access to the subdivision and to distribute traffic from local streets to the surrounding area. The extension is planned to support a pattern of connected streets as stated above but is not required for subdivision approval.”

Goal 12, Policy 2: Per the narrative “Appendix D, Section D107 of the Oregon Fire Code addresses standards regarding fire apparatus access roads for one or two-family developments. As discussed in the Bailey Meadows Subdivision application (City of Sandy Local File No. 19-023 SUB/VAR/TREE), the subdivision currently provides two separate and approved fire apparatus access roads (Melissa Avenue and SE Ponder Lane) and shall meet the requirements of Section D104.3. The extension of Gunderson Road would provide an additional access to the subdivision. Therefore, if approved, the Gunderson Road extension will provide the secondary access to the subdivision and SE Ponder Lane will not

be utilized to serve as an emergency access as described above. Additionally, the nature of Policy 2 above requires coordination of the application by the City with affected governmental entities. Coordination requires notice of an application, an opportunity for an affected governmental entity to comment on the application, and the City's incorporation of the comments to a reasonable extent. The City can find that coordination of this application will be accomplished in two ways: by the Applicant prior to application submittal, and by the City in the review process for the application. Goal 12, Policy 2 is satisfied."

Goal 12, Policies 21 and 22: Per the narrative "The above criteria applies to City processes for noticing and coordinating with ODOT, as applicable. The standards above apply as the project plans to extend Gunderson Road to OR 211. Direct action by the Applicant will be taken as applicable. Policy 21 and 22 can be satisfied."

Goal 14, Policy 1: Per the narrative "This application to amend the City UGB is necessary to provide a public transportation facility (i.e., Gunderson Road) to support residential land north of the project site which was included within the UGB and subsequently annexed in 2017. Additionally, this application provides parkland dedication which will benefit residential lands in the vicinity. As described above, the City is required to maintain a UGB with sufficient residential lands, as addressed in the February 2017 City of Sandy Urban Growth Boundary Expansion Analysis. This application will provide a public road as illustrated in the Sandy TSP that aligns with the existing transportation network in the area and implement a connection to OR 211."

Goal 14, Policies 2 and 3: Per the narrative "The project site is currently vacant, with pasture and vegetated areas. As stated above, urban growth should be directed in a contiguous manner and the planned Gunderson Road extension will facilitate growth north of the project site while having no impact on urban services or utilities. Per Goal 14, Policy 3(b) above, the City shall encourage the development of land which is contiguous to development areas where services can be easily and economically extended. The extension of Gunderson Road will provide access and distribute traffic from local streets to the surrounding area and provide parkland dedication, a benefit to lands north of the project site and those within the City limits."

Goal 14, Policy 4: Per the narrative "The property involved in this application, Tax Lot 701, is associated with an UGMA, as it is within the Sandy Adopted URA. The applicable elements are addressed within this written narrative."

Goal 14, Policy 6: Per the narrative "This application involves a property owner's (i.e., the Applicant's) request that Tax Lot 701, land within the designated Sandy URA, be included with the Sandy UGB. The applicable criteria, including Land Conservation and Development Commission (LCDC) Goal 14 noted above, have been addressed in this written document. Policy 6 is relevant and satisfied."

Goal 14, Policy 7: Per the narrative "The subject application involves property which is located within the URA. This written document contains analysis of the City's

comprehensive plan goals and policies associated with the property. Therefore, Policy 7 is applicable.”

Goal 14, Policy 8: Per the narrative “Tax Lot 701 is located within the Sandy Adopted URA. Therefore, Policy 8 is applicable, and the City of Sandy shall have the lead role in coordinating this application for the planned public transportation and parkland facilities”

Goal 14, Policy 9: Per the narrative “Tax Lot 701 is located within the Sandy Adopted URA and is currently designated with Clackamas County EFU zoning. An application for annexation and a comprehensive plan amendment is necessary to apply City zoning to allow for the public transportation and parkland facilities. Policy 9 is applicable and satisfied.”

Goal 14, Policy 11: Per the narrative “Tax Lot 701 is located within the Sandy Adopted URA. Therefore, Policy 11 is applicable, and the City of Sandy shall coordinate with Clackamas County in processing the subject land use and development application for unincorporated lands within the URA.”

Goal 14, Policy 12: Per the narrative “Tax Lot 701 is located within the Sandy Adopted URA and is currently designated with Clackamas County EFU zoning. An application for annexation and a comprehensive plan amendment is necessary to apply City zoning allowing this urban development (i.e., creation of a public transportation facility and a public parkland facility). Therefore, the subject application does not involve new commercial, industrial, or agricultural uses. The Applicant understands that City Low-Density Residential (LDR) Comprehensive Plan and Single-Family Residential (SFR) Zoning designations are intended for the property. Interim use and development, prior to annexation, is not associated with this application. The application complies with the applicable components of Policy 12 above.”

As mentioned above, the Board of County Commissioners (BOC) will hold a hearing on June 3 to consider approving the UGB amendment. As part of its recommendation of approval to the BOC, the Clackamas County Planning Commission included a recommended condition of approval addressing the Historic Barlow Road. The suggested condition addressed road improvements in the expansion area in order to minimize impacts to the Barlow Road Historic Corridor through the location of construction staging activities; excavation of the stormwater facility; and preserving any portions of the road that are apparent in the park land.

2. Chapter 17.26 Zoning District Amendments

In association with the annexation request, the applicant requests Single Family Residential (SFR) zoning to apply to 4.04 acres and Parks & Open Space (POS) zoning to apply to 2.38 acres as designated in the UGB Expansion in File No. 20-002.

The applicant submitted a Traffic Impact Analysis (Exhibit H), which addresses the Transportation Planning Rule and associated approval criteria relative to the proposed UGB amendment, comprehensive plan and zone map amendments, and annexation

application. The analysis determined a left-turn lane is warranted at the intersection of Gunderson Road at Highway 211 using the 2022 buildout scenario, therefore it is recommended that a left-turn lane be constructed as part of the intersection improvements. Traffic signal warrants are not met at the intersection of Gunderson Road at Highway 211 under the 2022 buildout scenario. The analysis concludes that “the proposed UGB amendment, comprehensive plan and zone map amendments, and annexation will implement the City of Sandy TSP and result in improved operation at the study area roadways and intersections. The connection will improve conditions for the existing neighborhood to the north of the Bailey Meadows subdivision by providing another means of vehicular access to the area.”

3. Chapter 17.78 Annexation

Section 17.78.15 requires the annexation is processed as a Type A, Type B, or Type C.

***RESPONSE:** The applicant requests a Type C annexation to modify the comprehensive plan map and the zoning map. The applicant has submitted all the required materials to process the request as a Type C annexation.*

Section 17.78.20 requires that the following conditions must be met prior to beginning an annexation request:

- A. The requirement of Oregon Revised Statutes, Chapters 199 and 222 for initiation of the annexation process are met;
- B. The site must be within the City of Sandy Urban Growth Boundary (UGB);
- C. The site must be contiguous to the city or separated from it only by a public right-of-way or a stream, bay, lake or other body of water;
- D. The site has not violated Section 17.78.25.

***RESPONSE:** Oregon Revised Statute Section 199 pertains to Local Government Boundary Commissions and City-County Consolidation. Oregon Revised Statute Section 222 pertains to City Boundary Changes; Mergers; Consolidations and Withdrawals. The proposal complies with applicable requirements at this time and all notices were mailed as necessary.*

The proposed annexation area is located within an area that is anticipated to be in the Urban Growth Boundary (UGB) and is contiguous to city limits on the north side of the subject property.

Section 17.78.25 requires review of tree retention requirements per SMC 17.102 and SMC 17.60 at the time of annexation to discourage property owners from removing trees prior to annexing as a way of avoiding Urban Forestry Ordinance provisions.

- A. Properties shall not be considered for annexation for a minimum of five (5) years if any of the following apply:
1. Where any trees six (6) inches or greater diameter at breast height (DBH) have been removed within 25 feet of the high water level along a perennial stream in the five years prior to the annexation application.
 2. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 80 feet of the high water level of Tickle Creek in the five years prior to the annexation application.
 3. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 50 feet of the high water level along other perennial streams in the five years prior to the annexation application.
 4. Where any trees six (6) inches or greater DBH have been removed on 25 percent or greater slopes in the five years prior to the annexation application.
 5. Where more than ten (10) trees (11 inches or greater DBH) per gross acre have been removed in the five years prior to the annexation application, except as provided below:
 - a. Sites under one (1) acre in area shall not remove more than five (5) trees in the five years prior to the annexation application.
 - b. Sites where removal of ten (10) or fewer trees will result in fewer than three (3) trees per gross acre remaining on the site. Tree removal may not result in fewer than three (3) trees per gross acre remaining on the site. At least three (3) healthy, non-nuisance trees 11 inches DBH or greater must be retained for every one-acre of contiguous ownership.
 - c. For properties in or adjacent to the Bornstedt Village Overlay (BVO), tree removal must not result in fewer than six (6) healthy 11 inch DBH or greater trees per acre. For properties in or adjacent to the BVO and within 300 feet of the FSH Overlay District, tree removal must not result in fewer than nine (9) healthy 11 inch DBH or greater trees per acre.

Rounding: Site area shall be rounded to the nearest half acre and allowed tree removal shall be calculated accordingly. For example, a 1.5 acre site will not be allowed to remove more than fifteen (15) trees in the five years prior to the annexation application. A calculation of 1.2 acres is rounded down to one (1) acre and a calculation of 1.8 is rounded up to two (2) acres.

Cumulative Calculation: Total gross acreage includes riparian areas and other sensitive habitat. Trees removed under Sections 17.78.25(A) 2. and 3. shall count towards tree removal under Section 17.78.25(A) 5.

B. Exceptions. The City Council may grant exceptions to this section where:

1. The property owner can demonstrate that Douglas Fir, Western Red Cedar, or other appropriate native trees were planted at a ratio of at least two trees for every one tree removed no less than five years prior to the submission of the annexation application, and at least 50 percent of these trees have remained healthy; or
2. The Council finds that tree removal was necessary due to hazards, or utility easements or access; or
3. The trees were removed because they were dead, dying, or diseased and their condition as such resulted from an accident or non-human cause, as determined by a certified arborist or other qualified professional; or
4. The trees removed were nuisance trees; or
5. The trees were removed as part of a stream restoration and enhancement program approved by the Oregon Department of Fish and Wildlife as improving riparian function; or
6. The trees removed were orchard trees, Christmas trees, or commercial nursery trees grown for commercial purposes; or
7. The application of this section will create an island of unincorporated area.

RESPONSE: *The subject property is 6.42 acres and requires retention of 19 trees 11-inches DBH or greater and in good condition. Per the submitted narrative (Exhibit E), the subject property has not violated Section 17.78.25. A review of aerial photos from the five years prior to submittal of this application (2015 to the present) reveals that tree canopy has remained in a similar condition. Based solely on aerial photos staff finds that no significant tree removal has occurred on the subject property. **Prior to any future tree removal on the subject property the applicant shall apply and receive approval for a tree removal permit in compliance with Chapter 17.102. Removal of trees without a permit prior to annexation approval shall result in the property not being considered for annexation for at least five (5) years. Removal of trees without a permit after annexation shall be enforced in compliance with Chapter 17.06.***

Section 17.78.50 contains required annexation criteria. Requests for annexation shall not have an adverse impact on the citizens of Sandy, either financially or in relation to the livability of the city or any neighborhoods within the annexation area. Generally, it is desirable for the city to annex an area if the annexation meets any of the following criteria:

- A. A necessary control for development form and standards of an area adjacent to the city;
or

- B. A needed solution for existing problems, resulting from insufficient sanitation, water service, or other urban service related problems; or
- C. Land for development to meet urban needs and that meets a logical growth pattern of the city and encourages orderly growth; or
- D. Needed routes for utility and transportation networks.

RESPONSE: *The applicant's narrative (Exhibit E) indicates they believe annexation of the subject property meets Criterion C above. The annexation is to allow the extension of Gunderson Road (and urban public transportation facility) and parkland. Per the narrative, "The extension would provide an additional access to the Bailey Meadows Subdivision and distribute traffic in the area and meet needs for an area of planned, logical urban growth" in compliance with Criterion C. Staff agrees that the proposed annexation meets Criterion C.*

III. RECOMMENDATION

Staff recommends the City Council approve Ordinance No. 2020-11. Consistent with the application and the Planning Commission's recommendation, the ordinance contains a condition that limits the future uses of the 4.04 acres zoned SFR to right-of-way and utility uses and associated facilities to support such uses.

EXHIBIT A



LAND USE APPLICATION FORM

(Please print or type the information below)

Planning Department
39250 Pioneer Blvd.
Sandy OR 97055
503-489-2160

Name of Project City of Sandy UGB Annexation, Comp. Plan, and Zone Map Amendments

Location or Address Southeast of Ponder Lane, northwest of Oregon Highway 211

Map & Tax Lot Number T 25, R 4E, Section 23; Tax Lot(s) 701

Request: This application involves the Annexation, Comp Plan, and Zone Map Amendments regarding the expansion of the City of Sandy's Urban Growth Boundary to accommodate a public transportation facility (e.g. Gunderson Road).

Please contact the Applicant's consultant and legal counsel (below) with any inquiries:

AKS Engineering & Forestry, LLC - Chris Goodell: (503) 563-6151; chrisg@aks-eng.com
Schwabe, Williamson & Wyatt - Michael Robinson: (503) 796-3756; mrobinson@schwabe.com

I am the (check one) owner lessee of the property listed above, and the statements and information contained herein are in all respects true, complete and correct to the best of my knowledge and belief.

Applicant (if different than owner) Allied Homes & Development	Owner Richard L Pullen, Lawrence Pullen, Sherrene Teneyck
Address 12404 SE Sunnyside Road, Suite 706	Address 37020 SE Deming Road
City/State/Zip Clackamas, OR 97015	City/State/Zip Sandy, OR 97055
Phone Please contact Applicant's consultant	Phone Please contact Applicant's consultant
Email Please contact Applicant's consultant	Email Please contact Applicant's consultant
Signature <small>DocuSigned by:</small> <i>Cody Bugan</i>	Signature <small>DocuSigned by:</small> <small>DocuSigned by:</small> <small>DocuSigned by:</small> <i>[Signatures]</i>

If signed by Agent, owner's written authorization must be attached.

File No.	Date	Rec. No.	Fee \$
Type of Review (circle one): Type I Type II Type III Type IV			

W:\City Hall\Planning\Planning Forms\Forms Updated 2018\General Land Use Application - updated 2019.doc

Fees Included: \$6,033 (Annexation Type IV, Type C)

EXHIBIT B



SUPPLEMENTAL LAND USE APPLICATION FORM (No. 1)

(Please print or type the information below)

Planning Department
39250 Pioneer Blvd.
Sandy OR 97055
503-668-4886

- ANNEXATION
 ZONE CHANGE
 COMPREHENSIVE PLAN AMENDMENT

Property Identification			
Tax Lot Number	Township	Range	Section

Existing and Proposed Land Use Designations				
Tax Lot Number(s)	Comprehensive Plan		Zoning Map	
	Existing	Proposed	Existing	Proposed

IMPORTANT: Each section on this application must be fully completed or your application could be deemed incomplete.

Tax Lot Number	Clackamas County Recording Number	Assessed Land Value	Size in Acres or Sq. Ft.

LEGAL DESCRIPTION: Attach a separate page with the written metes and bounds legal description. Accuracy of the legal description(s) must be certified by a registered land surveyor for all annexation applications.

A legal description and map is included in Exhibit C.

DESCRIBE EXISTING USES

DESCRIBE EXISTING BUILDINGS
How many buildings are located on the property?
Number of Total Dwelling Units :

DESCRIBE EXISTING TOPOGRAPHY	
Approximate acreage with slopes less than 14.9%	
Approximate acreage with slopes 15% to 24.9%	
Approximately acreage with slope in excess of 25%	
Any creeks, water sources, drainageways or wetlands within the property? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Any steep slopes, ravines, draws or bluffs within or abutting the property? Yes <input type="checkbox"/> No <input type="checkbox"/>	

DESCRIBE EXISTING ACCESS

Does the subject property abut a public right-of-way? **Yes** **No**

Name of public right-of-way:

Does the property abut a private road? **Yes** **No**

Name of abutting private road(s):

Describe any unusual difficulties in accessing the property:

DESCRIBE SURROUNDING USES ON ADJACENT PROPERTIES

DESCRIBE PROPOSED USE OF THE PROPERTY OR LAND DIVISIONS

Include number of lots, densities, etc.

EXHIBIT C



**SUPPLEMENTAL ANNEXATION
LAND USE APPLICATION FORM (No. 2)**

List of all owners of property included in the application



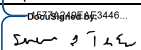
Owner Information	Property Description TL, Section, Township, Range
Owner Sherrene TenEyck Address 37020 SE Deming Road City/State/Zip Sandy, OR 97055 Phone Please contact Applicant's consultant	TL 24E23 00701 Section 23, Township 2S, Range 4E
Owner Richard Pullen Address 36969 Deming Road City/State/Zip Sandy, OR 97055 Phone Please contact Applicant's consultant	TL 24E23 00701 Section 23, Township 2S, Range 4E
Owner Lawrence Pullen Address 36940 Deming Road City/State/Zip Sandy, OR 97055 Phone Please contact Applicant's consultant	TL 24E23 00701 Section 23, Township 2S, Range 4E
Owner Address City/State/Zip Phone	
Owner Address City/State/Zip Phone	

Written Consent Form

EXHIBIT D

We, the undersigned property owners of and/or registered voters in the area described below, hereby petition for, and give our consent to, annexation of the area to the City of Sandy.

Note: This petition may be signed by qualified persons even though they may not know their property description or precinct number.

Date	Signature	Printed Name	I am a:			Address	Property Description or Parcel ID	Precinct Number
			PO	RV	OV			
12/20/2019		Richard L Pullen	X			36969 Deming Road, Sandy, OR 97055		
12/27/2019		Lawrence Pullen	X			36940 Deming Road, Sandy, OR 97055		
12/21/2019		Sherrene Lanette TenEyck	X			37020 SE Deming Rd, Sandy, OR 97055		

PO- Property Owner
RV – Registered Voter
OV – Owner and Registered Voter

EXHIBIT E

I. Executive Summary

The City of Sandy is currently processing a land use application for the Bailey Meadows subdivision (local file No. 19-023 SUB/VAR/TREE) and the amendment of the Sandy Urban Growth Boundary (UGB) to accommodate a future public transportation facility (i.e., Gunderson Road) and parkland dedication on Tax Lot 701 that is currently outside the City limits and UGB. The alignment for the Gunderson Road extension falls within property that is located outside of Sandy's City limits and UGB. This property is currently designated Exclusive Farm Use (EFU) by Clackamas County, but is within the City of Sandy's Urban Reserve Area (URA). The portion of the property that is planned to be included within the amended UGB is limited to areas necessary to construct the Gunderson Road extension, including land for the roadway, associated storm drainage improvements, accompanying utilities, grading, etc. and area for parkland dedication.

Allied Homes & Development (Applicant) is submitting this application for an Annexation, Comprehensive Plan Map Amendment, and Zone Map Amendment for the subject portion of Tax Lot 701 to allow for the public facilities. This consolidated application involves updating the City's comprehensive plan map designation for the subject portion of the property from existing Clackamas County Exclusive Farm Use (EFU) designation to Low Density Residential (LDR) and Single Family Residential (SFR) zoning designation.

The City of Sandy Land Development Code (LDC) requires this application be considered through a Quasi-Judicial Type IV procedure, which applies to an individual property, involving hearings before the Planning Commission and the City Council. The City should also comply with the Type III noticing requirements outlined in LDC Chapter 17.12. This application includes the City application forms and written materials necessary for the City of Sandy staff to review and determine compliance with the applicable approval criteria. The evidence is substantial and supports the approval of the application.

II. Site Description/Setting

The property (Tax Lot 701) included in this application has a total area of ±14.30 acres, though only the acreage required for the road right-of-way and associated improvements and parkland dedication are planned to be incorporated within the Sandy UGB. Tax Lot 701 is located outside of, but adjacent to the UGB, immediately south of the active Bailey Meadows Subdivision application (City of Sandy Local Case File No. 19-023 SUB/VAR/TREE), northwest of OR 211, and west of the intersection of SE Ponder Lane and OR 211.

The property is fairly flat with vegetated areas on the northwest half and pasture on the eastern half. The property does not contain structures and access is served from OR 211 on the south side of the site.

III. Applicable Review Criteria

SANDY COMPREHENSIVE PLAN GOALS AND POLICIES

Goal 1 – Citizen Involvement

- POLICY 1:** The City of Sandy shall maintain a citizen involvement program to allow opportunity for citizen involvement in the ongoing planning process.
- POLICY 2:** Comprehensive Plan changes shall include the opportunity for participation of citizens affected by the change.
- POLICY 4:** The City shall disseminate information and public notice to the residents of the Sandy area concerning on-going planning activities and pending actions.



Response: The City of Sandy has an established citizen involvement program. The application will be processed according to Chapter 17.12 of the LDC, which involves public notification, public hearings, and decision appeal procedures, as established in City of Sandy LDC Section 17.12.30 and 17.12.40. Therefore, the application is consistent with Goal 1.

Goal 2 – Land Use Planning

POLICY 2: Changes to the Comprehensive Plan Map shall be consistent with the policies of the Comprehensive Plan, state law, and intergovernmental agreements.

Response: Changes to the Comprehensive Plan Map are consistent with SDC Chapter 17.12 and the applicable policies of the Comprehensive Plan, as detailed in this written narrative. Consistency with applicable State statute and rules and the Urban Growth Management Agreement (UGMA) between City of Sandy and Clackamas County have been addressed in this document. Therefore, Policy 2 above is met.

POLICY 10: Due to the demand which new development places upon the community's infrastructure, the city may impose off-site improvement requirements necessitated by a development. Each development shall provide for all onsite needs, and in areas which represent a critical link in the facility and service delivery systems, the city may require the over-sizing of these systems. The City may negotiate late-comer fees or other arrangements to compensate developers for over-sizing of facilities.

Response: The Applicant is submitting this application to satisfy an anticipated condition of approval associated with City of Sandy Local File No. 19-023 SUB/VAR/TREE. Although Bailey Meadows Subdivision provides for and meets SDC criteria for on-site needs, in this case the City and Applicant agree to an off-site improvement requirement (i.e., Gunderson Road extension and parkland dedication). The off-site extension of Gunderson Road is outside the UGB, as described in this written document, and require a UGB amendment to allow an urban facility to be built on land currently within the County's jurisdiction. The policy above is understood and met by this application submittal.

POLICY 14: Proposed plan elements such as parks, roadways, schools, etc., are intended to be conceptual. Actual locations and quantities should be determined through the development process.

Response: The alignment of the extension of Gunderson Road to OR 211, a proposed plan element in the City's TSP, is conceptual. The actual location should be determined through the development process, as outlined above. To provide this public transportation facility improvement, the road should be extended to match the conceptual alignment in the Sandy TSP. However, due to geometrical issues, safety concerns, and potential for transportation hazards, the alignment illustrated in the Sandy TSP is not practicable for construction. This application provides for a solution to extend Gunderson Road and determine the actual functionable location through site analysis and development review. The location shown in Exhibit C can be improved to provide the required site characteristics and execute the extension of the transportation network to satisfy the needs of citizens in the general area. Please see the TIA and Supplemental Materials of Exhibit C for further details.

Additionally, according to the Sandy Parks Master Plan adopted May 15, 1997, there is not a conceptual location for a park on or near the subject site. Therefore, the location



for the improvement should be determined through the development process. Though parkland dedication is not required of the Bailey Meadows Subdivision application, the Applicant is providing it and it must be brought within the Sandy UGB and annexed to allow for it. Policy 14 above is met.

Goal 5 – Natural Resources

Response: Goal 5 is not applicable to the decision. The decision does not affect a Goal 5 resource under OAR 660-023-0250(3)(a)-(c) because:

- a) The decision does not “create or amend” a resource list or a portion of an acknowledged plan or land use regulation adopted in order to protect a significant Goal 5 resource or to address specific requirements of Goal 5.”
- b) The decision does not “allow” new uses that could be conflicting uses with a particular significant Goal 5 resource site on an acknowledged resource list.”
- c) While the decision “amends an acknowledged UGB” no “factual information [was] submitted demonstrating that a resource site, or the impact areas of such a site, is included in the amended UGB area.”

Goal 6 – Air, Water, and Land Resources Quality

POLICY 4: Reduce congestion and delay on major streets to lessen localized pollution impacts of automobile travel through methods such as signal timing, access management, intersection improvements, etc.

Response: The City’s Comprehensive Plan with respect to Goal 6 and its development regulations governing land, air, and water quality are not affected by the decision. The intent of extending Gunderson Road to OR 211 is to enhance neighborhood circulation and provide local parkland, thereby reducing congestion and delay in the area. This mitigates localized pollution impacts of vehicle activity in the area.

Goal 7 – Areas Subject to Natural Hazards

Response: The City’s Comprehensive Plan, with respect to Goal 7 and its development regulations governing natural hazards, is not affected by the decision. The subject site does not contain mapped areas of steep slopes 25 percent or greater or other known hazard areas.

Goal 8 – Recreational Needs

POLICY 1: Ensure that new residential development contributes equitably to park land acquisition, development, and maintenance.

POLICY 2: Establish methods to maintain and enhance the quality and quantity of parks, open space, and recreational facilities and services. Ensure that these facilities and services serve the diverse recreational needs and interests of area residents and are accessible to all members of the community.

POLICY 10: The conceptual location of community and neighborhood parks and areas of open space have been indicated on the City of Sandy Land Use Map. Actual park locations may be determined based on more site-specific information.

Response: According to the Sandy Parks Master Plan adopted May 15, 1997, there is not a conceptual location for a park on or near the subject site. Therefore, the location for the improvement should be determined through the development process. Though parkland



dedication is not required of the Bailey Meadows Subdivision application, the Applicant is providing it and it must be brought within the Sandy UGB and annexed to allow for it. The City's Comprehensive Plan with respect to Goal 8 above is met.

Goal 9 – Economic Development

Response: The City's Comprehensive Plan with respect to Goal 9 and its employment lands are not affected by the decision.

Goal 10 – Housing

Response: The subject property associated with this application to be incorporated within the UGB will be strictly for the purpose of constructing a public transportation facility and parkland improvements and is not planned to include land for residential use. Therefore, the City's Comprehensive Plan with respect to Goal 10 and residential land is not affected by the decision.

Goal 11 – Public Facilities and Services

Response: The City's Comprehensive Plan contains an acknowledged Goal 11 element that includes policies to ensure sufficient and adequate public services are available (or will be available as appropriate) to serve lands within the UGB. The property north of the subject site, Bailey Meadows Subdivision, was found to be sufficiently served by public services at the time it was annexed into the City in June 2017. This application involves amending the City's UGB to permit the extension of a public transportation facility (i.e., Gunderson Road) to allow for a future connection to OR 211. If approved, the extension is intended as an additional access to the subdivision and to distribute traffic from local streets to the surrounding area. The extension is not required for subdivision approval. Additionally, providing parkland on the northeast portion of Tax Lot 701 will enhance quality of life for the residents in the area. The parkland dedication is not required for subdivision approval. Goal 11 is satisfied.

POLICY 3: Consider the needs of emergency service providers in the review of all development. Particular attention should be paid to:

- a) Street and driveway layout and site design features that ensure emergency vehicle access and building identification.
- b) Fire hydrant locations and fire flow.
- c) Security through appropriate lighting and landscape design.

Response: Policy 3 above, regarding emergency service provider access, is discussed in detail under Goal 12, Policy 2.

Goal 12 – Transportation

POLICY 1: Support a pattern of connected streets, sidewalks, and bicycle routes to: a) provide safe and convenient options for cars, bikes, and pedestrians; b) create a logical, recognizable pattern of circulation; and, c) spread traffic over local streets so that collector and arterial streets are not overburdened.

Response: This application involves the extension of a public transportation facility (i.e., Gunderson Road) to allow Bailey Meadows Subdivision a future connection to OR 211, as illustrated in the City of Sandy TSP. If approved, the extension is intended as an additional access to



the subdivision and to distribute traffic from local streets to the surrounding area. The extension is planned to support a pattern of connected streets as stated above but is not required for subdivision approval.

POLICY 2: Work with fire district, police, and other emergency service providers to ensure that adequate emergency access is possible on all streets.

Response: Appendix D, Section D107 of the Oregon Fire Code addresses standards regarding fire apparatus access roads for one or two-family developments. As discussed in the Bailey Meadows Subdivision application (City of Sandy Local File No. 19-023 SUB/VAR/TREE), the subdivision currently provides two separate and approved fire apparatus access roads (Melissa Avenue and SE Ponder Lane) and shall meet the requirements of Section D104.3.

The extension of Gunderson Road would provide an additional access to the subdivision. Therefore, if approved, the Gunderson Road extension will provide the secondary access to the subdivision and SE Ponder Lane will not be utilized to serve as an emergency access as described above.

Additionally, the nature of Policy 2 above requires coordination of the application by the City with affected governmental entities. Coordination requires notice of an application, an opportunity for an affected governmental entity to comment on the application, and the City's incorporation of the comments to a reasonable extent. The City can find that coordination of this application will be accomplished in two ways: by the Applicant prior to application submittal, and by the City in the review process for the application. Goal 12, Policy 2 is satisfied.

POLICY 21: Work with ODOT to determine locations for necessary traffic control signals. Proposed locations for future traffic signals have been determined for the downtown area in the City of Sandy Transportation System Plan. Other locations need to be determined in order to improve the safety and convenience of pedestrians, bicycles, and automobiles. The location of traffic signals should be consistent with the street network indicated in the Comprehensive Plan Map and current traffic engineering standards.

POLICY 22: Submit notice of development proposals impacting Highways 26 and 211 to ODOT for review and comment.

Response: The above criteria applies to City processes for noticing and coordinating with ODOT, as applicable. The standards above apply as the project plans to extend Gunderson Road to OR 211. Direct action by the Applicant will be taken as applicable. Policy 21 and 22 can be satisfied.

Goal 13 – Energy Conservation

Response: The City's Comprehensive Plan with respect to Goal 13 and its standards governing energy conservation are not affected by the decision.

Goal 14 – Urbanization

POLICY 1: Maintain an urban growth boundary with sufficient residential, commercial, industrial, and public use lands necessary to support forecast population and employment for a 20-year horizon. The City will evaluate and update the 20-year land supply at each periodic review plan update.



Response: This application to amend the City UGB is necessary to provide a public transportation facility (i.e., Gunderson Road) to support residential land north of the project site which was included within the UGB and subsequently annexed in 2017. Additionally, this application provides parkland dedication which will benefit residential lands in the vicinity. As described above, the City is required to maintain a UGB with sufficient residential lands, as addressed in the February 2017 City of Sandy Urban Growth Boundary Expansion Analysis. This application will provide a public road as illustrated in the Sandy TSP that aligns with the existing transportation network in the area and implement a connection to OR 211.

POLICY 2: Urban growth should be directed in a generally contiguous manner consistent with the city's ability to economically maintain and extend public services and facilities.

POLICY 3: The City of Sandy shall encourage the development of land according to the following priorities:

- a) Vacant, buildable lands or underutilized lands located within developed or developing areas.
- b) Lands contiguous to development areas where services can be easily and economically extended.
- c) Lands which are significantly separated from developing areas by vacant land, or areas which would place an undue burden on the city's infrastructure.

Response: The project site is currently vacant, with pasture and vegetated areas. As stated above, urban growth should be directed in a contiguous manner and the planned Gunderson Road extension will facilitate growth north of the project site while having no impact on urban services or utilities. Per Goal 14, Policy 3(b) above, the City shall encourage the development of land which is contiguous to development areas where services can be easily and economically extended. The extension of Gunderson Road will provide access and distribute traffic from local streets to the surrounding area and provide parkland dedication, a benefit to lands north of the project site and those within the City limits.

POLICY 4: An Urban Growth Boundary (UGB) and Urban Reserve Area (URA) shall be jointly adopted by the City of Sandy and Clackamas County. Procedures for coordinated management of the unincorporated lands within the UGB and URA shall be specified in an intergovernmental agreement adopted by the Sandy City Council and the Clackamas County Board of Commissioners.

Response: The property involved in this application, Tax Lot 701, is associated with an UGMA, as it is within the Sandy Adopted URA. The applicable elements are addressed within this written narrative.

POLICY 6: Designated URA lands will be considered for inclusion within the UGB on a phased basis, primary at periodic review. Legislative amendments to the UGB shall be large enough to facilitate cohesive neighborhood framework planning and efficient provision of public facilities. Property owners will also have the opportunity to request that land within the designated URA be included within the Sandy UGB, based on the criteria outlined in LCDC Goal 14 and the Urban Growth Management Agreement with Clackamas County.

Response: This application involves a property owner's (i.e., the Applicant's) request that Tax Lot 701, land within the designated Sandy URA, be included with the Sandy UGB. The applicable criteria, including Land Conservation and Development Commission (LCDC)



Goal 14 noted above, have been addressed in this written document. Policy 6 is relevant and satisfied.

POLICY 7: The City of Sandy shall have the lead role in designating planned land uses and densities for incorporated and unincorporated lands within the UGB and the URA. The Comprehensive Plan shall constitute the comprehensive plan for all land within the Urban Growth Boundary and Urban Reserve Area.

Response: The subject application involves property which is located within the URA. This written document contains analysis of the City's comprehensive plan goals and policies associated with the property. Therefore, Policy 7 is applicable.

POLICY 8: The City of Sandy shall have the lead role in coordinating public facility planning (streets, sanitary and storm sewers, water, parks and open space, schools) within the UGB and the URA.

Response: Tax Lot 701 is located within the Sandy Adopted URA. Therefore, Policy 8 is applicable, and the City of Sandy shall have the lead role in coordinating this application for the planned public transportation and parkland facilities.

POLICY 9: County zoning shall apply to unincorporated lands within the UGB and URA until annexation to the City of Sandy.

Response: Tax Lot 701 is located within the Sandy Adopted URA and is currently designated with Clackamas County EFU zoning. An application for annexation and a comprehensive plan amendment is necessary to apply City zoning to allow for the public transportation and parkland facilities. Policy 9 is applicable and satisfied.

POLICY 11: Clackamas County shall have the lead role in processing land use and development applications for unincorporated lands within the UGB and URA.

Response: Tax Lot 701 is located within the Sandy Adopted URA. Therefore, Policy 11 is applicable, and the City of Sandy shall coordinate with Clackamas County in processing the subject land use and development application for unincorporated lands within the URA.

POLICY 12: The City of Sandy will support development within the areas outside the city limits but within the Sandy Urban Growth Boundary or Urban Reserve Area based on the following standards and restrictions:

- a) County zoning in effect at the time of adoption of the Urban Reserve Area will be frozen until the unincorporated land is included within the UGB and annexed for urban development.
- b) New commercial and industrial uses will generally be discouraged outside the City limits and within the UGB or within the Urban Reserve Area.
- c) Agricultural and forest uses will be allowed in accordance with Clackamas County zoning.
- d) The City and County shall coordinate plans for interim rural residential development within the designated Urban Reserve Area. The following strategies will be used to ensure that interim rural development does not inhibit long-term urbanization of lands within the Sandy UGB and Urban Reserve Area:
 - 1) shadow plats
 - 2) cluster development



-
- 3) redevelopment plans
 - 4) non-remonstrance agreements or deed restrictions for annexation and provision of urban facilities

Response: Tax Lot 701 is located within the Sandy Adopted URA and is currently designated with Clackamas County EFU zoning. An application for annexation and a comprehensive plan amendment is necessary to apply City zoning allowing this urban development (i.e., creation of a public transportation facility and a public parkland facility). Therefore, the subject application does not involve new commercial, industrial, or agricultural uses. The Applicant understands that City Low-Density Residential (LDR) Comprehensive Plan and Single-Family Residential (SFR) Zoning designations are intended for the property. Interim use and development, prior to annexation, is not associated with this application. The application complies with the applicable components of Policy 12 above.

SANDY DEVELOPMENT CODE – REVISED ORDINANCE 2019-01

CHAPTER 17.24 - COMPREHENSIVE PLAN AMENDMENT PROCEDURES

17.24.00 BACKGROUND

The adopted Comprehensive Plan is the official statement of the City that sets forth major policies concerning desired future development of the community. The Comprehensive Plan is the controlling land use planning instrument for the City, and as such land development regulations and related actions are required to conform to the plan.

This chapter pertains to lands within the City limits. Those portions of the Comprehensive Plan that apply to areas outside the City limits but within the urban growth boundary shall be amended in accordance with the provisions of Clackamas County and the Sandy Urban Growth Management Agreement.

Response: Tax Lot 701 is currently located outside of the City limits and within the City of Sandy's Urban Reserve Area (URA). This application involves amending the Urban Growth Boundary in accordance with the provisions of Clackamas County and the Sandy Urban Growth Management Agreement (UGMA). This chapter is relevant to the project.

17.24.10 INTENT

This chapter sets forth review criteria and procedural requirements in order to:

- A. Respond to changing conditions and community attitudes;
- B. Ensure flexibility while at the same time maintain the integrity of the Comprehensive Plan; and
- C. Establish procedures by which the Plan text and map may be amended.

17.24.20 INITIATION

Comprehensive Plan amendments may be initiated by one of the following:

- A. An application submitted by a property's owners or their authorized agents for a specific property; or
- B. A majority vote of the City Council.

Response: This application is submitted on behalf of the property owners of Tax Lot 701. The criteria are met.



17.24.30 FREQUENCY OF PLAN AMENDMENTS

Applications for Comprehensive Plan amendments initiated by property owners shall be reviewed semi-annually in March and September unless otherwise authorized by the City Council. The City Council may initiate amendments to the Comprehensive Plan at any time. Comprehensive Plan Amendments filed in conjunction with an annexation application shall be reviewed concurrently. Comprehensive Plan amendments are exempt from the time limits established in State law for development review processes and shall be exempt from time restrictions set in this Code.

Response: This application involves a Type C Annexation; therefore, the Comprehensive and Zone Map Amendments should be reviewed concurrently.

17.24.40 APPLICATION REQUIREMENTS

An application may be filed jointly by any or all of the property owners of record or their authorized agents within the area of the proposed Comprehensive Plan amendment. Applications shall be on forms provided by the Director and include a description and map of the area to be affected by the proposed change, a statement of the reasons for the change, and other information as may be necessary for an adequate review of the application. Notice shall be provided to the Land Conservation and Development Commission (LCDC) of any proposed amendment or new regulation as provided by State law. In addition, notice of any proposed amendment that may affect private access to state roads, or that may impact a state transportation facility, shall be provided to the Oregon Department of Transportation (ODOT).

Response: The application requirements are understood. Tax Lot 701 fronts on OR 211. It is understood that notice will be provided by the City to the Land Conservation and Development Commission (LCDC) and Oregon Department of Transportation (ODOT).

17.24.50 ACCEPTANCE OF APPLICATION

- A. The Director shall review the application in accordance with Chapter 17.20-Public Hearings;
- B. After accepting a complete application, the Director shall schedule a public hearing to be held by the Planning Commission. Notice of the hearing shall be provided in accordance with Chapter 17.22 Public Notices.

17.24.60 STAFF EVALUATION

The Director shall prepare a report that evaluates whether the proposal complies with the review criteria in Chapter 17.24.70. The report should include a recommendation for approval or denial.

17.24.70 REVIEW CRITERIA

Comprehensive Plan amendments shall be reviewed to assure consistency with the purposes of this chapter, policies of the Comprehensive Plan, and any other applicable policies and standards adopted by the City Council. Amendments shall be approved only when the following findings are made:

- A. The change being proposed is the best means of meeting the identified public need; and
- B. The change conforms to all applicable Statewide Planning Goals.

Response: This written document addresses applicable portions of the City of Sandy Land Development Code (SDC), Comprehensive Plan, and LCDC Statewide Planning Goals. The review criteria have been met.

17.24.80 ACTION BY THE HEARING BODY



-
- A. Planning Commission. The Planning Commission shall conduct a public hearing in accordance with Chapter 17.20-Public Hearings. Following the close of the public hearing, the Commission shall make a recommendation to the City Council concerning the proposed Comprehensive Plan map amendment. The Commission's recommendations shall include findings that specify how the proposal has or has not complied with the above review criteria.
 - B. City Council. Upon receipt of the Planning Commission's recommendation the matter shall be set for a de novo public hearing before the City Council. Following the close of the public hearing, the City Council shall either deny the application or adopt an ordinance approving the proposed Comprehensive Plan map amendment or a modification thereof. The City Council's decision shall include findings that specify how the proposal has or has not complied with the above review criteria.
 - C. Notwithstanding any contrary code provision and in the City Council's sole discretion, it may allow an amendment to proceed directly to a public hearing before the City Council without a hearing or recommendation from the Planning Commission.

17.24.90 NOTICE OF DECISION

The Director shall provide the applicant with a notice of decision that includes a written statement of the City Council's decision, a reference to findings leading to it, and appeal period deadline. A notice of the decision shall also be mailed to persons who participated orally or in writing at the public hearing and who in writing requested notice of the decision.

Response: This above procedural standards are understood and do not require action by the Applicant.

...

CHAPTER 17.26 - ZONING DISTRICT AMENDMENTS

17.26.00 INTENT

This chapter sets forth review criteria and procedural requirements for quasi-judicial and legislative zoning map amendments to accomplish the following: A. Maintain sound, stable, and desirable development within the City;

- B. Permit changes in zoning district boundaries where appropriate;
- C. Ensure zoning changes are consistent with the community's land use policies and goals; and
- D. Lessen the influence of private economic interests in the land use decision-making process.

17.26.10 BACKGROUND

The Zoning Map is consistent with the adopted Comprehensive Plan, as amended, and as such it is a reflection of the City's land use planning goals. The Zoning Map has been adopted as part of the Development Code. Frequent and piecemeal amendments to the Zoning Map can threaten the integrity of the Comprehensive Plan and the likelihood of its successful implementation. Nevertheless, it may be necessary to amend the Zoning Map from time to time to correct errors or to respond to changing conditions or unforeseen circumstances.



When a zoning district is amended there often must be a corresponding change to the Comprehensive Plan map. There are, however, instances where more than one zoning district matches the Comprehensive Plan designation. In these situations, the zoning district can be amended without a Plan map change. The table below illustrates the relationship between the Comprehensive Plan and the Zoning Map designations in the City.

Zoning district changes are classified as legislative or quasi-judicial, depending on the number of properties involved. Changes to the Zoning Map are reviewed initially by the Planning

Commission with a recommendation forwarded to the City Council. The City Council conducts a public hearing and considers adoption of changes. A Zoning Map application may be reviewed in conjunction with a Comprehensive Plan map amendment or other land use application.

17.26.20 COMPREHENSIVE PLAN & CORRESPONDING ZONING MAP DESIGNATIONS

PLAN MAP DESIGNATION	ZONING MAP DESIGNATION
RESIDENTIAL	RESIDENTIAL
LDR – Low Density Residential	SFR Single Family (3-5.8 units/net acre) R-1 Low Density (5-8 units/net acre)
MDR – Medium Density	R-2 Medium Density (8-14 units/net acre)
HDR – High Density	R-3 High Density (10-20 units/net acre)
COMMERCIAL	C-1 Central Business District
	C-2 General Commercial
	C-3 Village Commercial
INDUSTRIAL	INDUSTRIAL
	I-1 Industrial Park
	I-2 Light Industrial
	I-3 Heavy Industrial

Response: It is understood that the portion of the property that is planned to be annexed will be designated Low Density Residential (LDR) and Single Family Residential (SFR).

...

17.26.40 QUASI-JUDICIAL AMENDMENT PROCEDURES

All zoning district changes not deemed legislative shall be quasi-judicial.

- A. **Initiation-Quasi-Judicial.** Initiation of a zoning district change that is quasi-judicial in nature may be accomplished by one of the following ways:
 1. Filing of an application by the owner(s) of the subject property(ies); or
 2. A majority vote of the City Council or Planning Commission following the same procedures used for legislative amendments discussed above.

Where a motion by either the City Council or Planning Commission involves a Planned Development designation, the motion need not include a conceptual or detailed development plan.

- B. **Review Criteria.** Quasi-judicial zoning district changes shall be reviewed to:
 1. Determine the effects on City facilities and services;



-
2. To assure consistency with the purposes of this chapter;
 3. To assure consistency with the policies of the Comprehensive Plan;
 4. To assure consistency with the Statewide Planning Goals as may be necessary, and any other applicable policies and standards adopted by the City Council.

Response: This application addresses City facilities and services, consistency with Chapter 17 and the policies of the Comprehensive Plan, and the applicable LCDC Statewide Planning Goals. The review criteria have been addressed and met.

- C. **Application Requirements.** An application for quasi-judicial zoning district change shall be made on forms provided by the Director and shall include the following where applicable:
 1. Description of the land (address, lot, block, or similar description);
 2. Narrative addressing how the application meets the review criteria;
 3. Maps, drawings, and such other information as may be needed for an adequate review of the application;
 4. List of affected property owners, from current Clackamas County Assessor's Office records, within 300 feet of the boundaries of the parcel(s) proposed for a zoning district change; and
 5. If a proposed zoning district change is to include land in more than one ownership, the application must be submitted jointly by all of the owners or authorized agents.

Response: The above-listed submittal items have been included within the application materials. The zoning district change involves land in more than one ownership; as such, the application is submitted jointly by the property owners.

17.26.60 ACTION BY THE HEARING BODY

- A. **Planning Commission.** The Planning Commission shall conduct a public hearing in accordance with Chapter 17.20-Public Hearings. Following the close of the public hearing the Commission shall make a recommendation to the City Council concerning the proposed Zoning Map amendment. The Commission's recommendations shall include findings that specify how the proposal has or has not complied with the above review criteria;
- B. **City Council.** Upon receipt of the Planning Commission's recommendation the matter shall be set for a public hearing before the City Council. Following the close of the public hearing the City Council shall either deny the application or adopt an ordinance approving the proposed Zoning Map amendment or a modification thereof. The City Council's decision shall include findings that specify how the proposal has or has not complied with the above review criteria.
- C. **Notwithstanding any contrary code provision and in the City Council's sole discretion, it may allow an amendment to the zoning map or to the development code to proceed directly to a public hearing before the City Council without a hearing or recommendation from the Planning Commission.**

17.26.70 NOTICE OF DECISION



The Director shall provide the applicant with a notice of decision that includes a written statement of the City Council's decision, a reference to findings leading to it, and appeal period deadline. A notice of the decision shall also be mailed to persons who participated orally or in writing at the public hearing and, for legislative zone amendments, who in writing requested notice of the decision.

17.26.80 APPEALS

The decision of the hearing authority may be appealed in accordance with Chapter 17.28 Appeals.

17.26.90 EFFECTIVE DATE

The decision of the City Council made in conjunction with a Zoning Map amendment shall become effective 30 days after passage of the ordinance. No zoning district changes will take effect, however, until and unless the necessary Comprehensive Plan amendment has been implemented by the City Council, if needed.

Response: The procedural standards listed above are understood.

...

CHAPTER 17.78 - ANNEXATION

17.78.00 INTENT

The procedures and standards established in this chapter are required for review of proposed annexations in order to:

- A. Maximize citizen involvement in the annexation review process by holding a public hearing;
- B. Establish a system for measuring the physical, environmental, fiscal and related social effects of proposed annexations; and,
- C. Where possible and practical, avoid the creation of irregular boundaries or annexations that create "island," "cherry stem" or "shoestring" annexations.

Response: The above procedural standards are understood.

17.78.10 PROCEDURAL CONSIDERATIONS

- A. The corporate limits of the City shall include all territory encompassed by its boundaries as they now exist or are modified as provided herein unless mandated by State Law.
- B. The City may annex an island if it is less than 100 acres and has at least 80 percent of its boundary contiguous to the City; or the land is of any size and has at least 80 percent of its boundary contiguous to the City if the area to be annexed existed as an island before October 20, 1997.

Response: The subject property is not an island. The standard is not applicable.

- C. The City may annex land for public facilities. Public facilities include but are not limited to schools, senior centers, roads, police and fire stations, parks or open space, and public water, sewer and storm drainage facilities.

Response: This application involves annexation of land for the extension of a public transportation facility (i.e., Gunderson Road) as illustrated in the City of Sandy TSP and parkland dedication. The property (Tax Lot 701) has a total area of ±14.30 acres, though only the acreage required for the road right-of-way and associated improvements, and area for parkland dedication are planned to be annexed to the City of Sandy; the total area planned for annexation is approximately 5.40 acres.



17.78.15 TYPES OF ANNEXATION

- A. Type A: Annexation in conformance with conceptual zoning designation
- B. Type B: Annexation + zone change
- C. Type C: Annexation + plan map change + zone change

Response: This application involves a Type C Annexation.

17.78.20 CONDITIONS FOR ANNEXATION

The following conditions must be met prior to beginning an annexation request:

- A. The requirement of Oregon Revised Statutes, Chapters 199 and 222 for initiation of the annexation process are met;
- B. The site must be within the City of Sandy Urban Growth Boundary (UGB);
- C. The site must be contiguous to the city or separated from it only by a public right-of-way or a stream, bay, lake or other body of water.
- D. The site has not violated Section 17.78.25.

Response: An application for an amendment of the Sandy UGB to include Tax Lot 701 is being submitted for processing concurrently with this application. The site is contiguous to Tax Lot 803 of Clackamas County Assessor's Map 2 4E 23, which is located within the City limits, and has not violated Section 17.78.25.

17.78.25 TREE RETENTION

The intent of this section is to treat property with annexation potential (in the UGB) as if it had been subject, prior to annexation, to the tree retention provisions of the City's Urban Forestry Ordinance (Chapter 17.102) and Flood and Slope Hazard (FSH) Overlay District (Chapter 17.60), to discourage property owners from removing trees prior to annexation as a way of avoiding Urban Forestry Ordinance provisions, and to prevent unnecessary tree removal for future subdivision layout. In accordance with ORS 527.722, the State Forester shall provide the City with a copy of the notice or written plan when a forest operation is proposed within the UGB. The City shall review and comment on an individual forest operation and inform the landowner or operator of all other regulations that apply but that do not pertain to activities regulated under the Oregon Forest Practices Act.

- A. Properties shall not be considered for annexation for a minimum of five (5) years if any of the following apply:
 - 1. Where any trees six (6) inches or greater diameter at breast height (DBH) have been removed within 25 feet of the high water level along a perennial stream in the five years prior to the annexation application.
 - 2. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 80 feet of the high water level of Tickle Creek in the five years prior to the annexation application.
 - 3. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 50 feet of the high water level along other perennial streams in the five years prior to the annexation application.



-
4. Where any trees six (6) inches or greater DBH have been removed on 25 percent or greater slopes in the five years prior to the annexation application.
 5. Where more than ten (10) trees (11 inches or greater DBH) per gross acre have been removed in the five years prior to the annexation application, except as provided below:
 - a. Sites under one (1) acre in area shall not remove more than five (5) trees in the five years prior to the annexation application.
 - b. Sites where removal of ten (10) or fewer trees will result in fewer than three (3) trees per gross acre remaining on the site. Tree removal may not result in fewer than three (3) trees per gross acre remaining on the site. At least three (3) healthy, nonnuisance trees 11 inches DBH or greater must be retained for every one-acre of contiguous ownership.
 - c. For properties in or adjacent to the Bornstedt Village Overlay (BVO), tree removal must not result in fewer than six (6) healthy 11 inch DBH or greater trees per acre.

Response: The subject property has not violated Section 17.78.25, above, and the property should be considered for annexation.

B. Exceptions. The City Council may grant exceptions to this section where:

1. The property owner can demonstrate that Douglas Fir, Western Red Cedar, or other appropriate native trees were planted at a ratio of at least two trees for every one tree removed no less than five years prior to the submission of the annexation application, and at least 50 percent of these trees have remained healthy; or
2. The Council finds that tree removal was necessary due to hazards, or utility easements or access; or
3. The trees were removed because they were dead, dying, or diseased and their condition as such resulted from an accident or non-human cause, as determined by a certified arborist or other qualified professional; or
4. The trees removed were nuisance trees; or
5. The trees were removed as part of a stream restoration and enhancement program approved by the Oregon Department of Fish and Wildlife as improving riparian function; or
6. The trees removed were orchard trees, Christmas trees, or commercial nursery trees grown for commercial purposes; or
7. The application of this section will create an island of unincorporated area.

Response: This application does not require an exception to Section 17.78.25.

17.78.30 ZONING OF ANNEXED AREAS

- A.** All lands within the urban growth boundary of Sandy have been classified according to the appropriate city land use designation as noted on the comprehensive plan map (as per the city/county urban growth management area agreement). The zoning classification shall reflect the city land use classification as illustrated in Table 17.26.20.



-
- B. Where only a single city zoning designation corresponds to the comprehensive plan designation (Type A) and the rezoning decision does not require the exercise of legal or policy judgment on the part of the City Council, amendment of the zoning map shall be a ministerial decision of the Director made without notice or any opportunity for a hearing.

Response: Tax Lot 701 is located within the Sandy Adopted URA and is currently designated with Clackamas County EFU zoning. This application includes a comprehensive plan amendment to apply City zoning to allow for creation of a public transportation facility and parkland dedication. Consistent with abutting property designations, the Applicant plans to obtain City Low-Density Residential (LDR) Comprehensive Plan and Single-Family Residential (SFR) Zoning designations for the property. The transportation facility/road and parkland are permitted uses under the above designation as minor public facilities.

17.78.40 EXISTING USE, ACTIVITY OR STRUCTURE

- A. As of the effective date of annexation, no use or activity shall be considered non-conforming if the use or activity: (1) violates or conflicts with county zoning regulations and (2) is not classified as non-conforming under county zoning regulations. Any such use or activity shall constitute a violation of this ordinance.
- B. Any use, activity or structure that is existing at the effective date of annexation, under a Clackamas County use permit with a time limit imposed, shall not be a non-conforming use, but may continue for the extent of the time limit. Such use permits may not be extended without City approval.
- C. Any lot or parcel of land duly recorded in the Clackamas County Recorder's Office prior to the effective date of this Ordinance and having an area, width, depth, or street frontage less than that required in the Zoning District regulations in which such lot or parcel is situated, shall be deemed to be a lot and may be used as a building site, provided that all other regulations for the Zoning District shall apply.

Response: The subject property is unimproved with vegetated and pastured areas and is not associated with a current use or activity. There are no structures on site. The purpose of this application is to implement an anticipated condition of approval from the City for the Bailey Meadows Subdivision application. Together with an amendment to the City's UGB, this suite of applications (i.e., annexation, comprehensive plan map amendment, and zone map amendment), an offsite transportation facility improvement (e.g. Gunderson Road extension) can be realized. The configuration, area, and geometry of the land to be annexed is reflective of the Gunderson Road extension and not intended for other uses.

17.78.50 ANNEXATION CRITERIA

Requests for annexation shall not have an adverse impact on the citizens of Sandy, either financially or in relation to the livability of the city or any neighborhoods within the annexation area. Generally, it is desirable for the city to annex an area if the annexation meets any of the following criteria:

- A. A necessary control for development form and standards of an area adjacent to the city; or
- B. A needed solution for existing problems, resulting from insufficient sanitation, water service, or other urban service related problems; or



- C. Land for development to meet urban needs and that meets a logical growth pattern of the city and encourages orderly growth; or
- D. Needed routes for utility and transportation networks.

Response: This application involves an annexation to the to the Sandy UGB to allow the extension of Gunderson Road (i.e., an urban public transportation facility) pursuant to the Sandy TSP and dedication of parkland. The extension would provide an additional access to the Bailey Meadows Subdivision and distribute traffic in the area and meet needs for an area of planned, logical urban growth.

17.78.60 APPLICATION SUBMISSION REQUIREMENTS

Requests for annexation shall be made on forms provided by the city for such purposes and shall be accompanied by the following:

- A. Written consent form to the annexation signed by the owners of all land to be annexed;
- B. A legal description certified by a registered surveyor or engineer;
- C. The application fee established by the city;
- D. A list of property owners within three hundred (300) feet of the subject property on mailing labels;
- E. Vicinity map showing the area to be annexed including adjacent city territory;

Response: The written consent form signed by the property owners, a legal description, fee, list of adjacent property owners, and vicinity map are included in the application materials. The submittal requirements have been met.

- F. Site Plan (Type A=15 copies; Type B or C = 25 copies) drawn to scale (not greater than one inch = fifty feet), indicating:
 - 1. The location of existing structures (if any);
 - 2. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed;
 - 3. Approximate location of areas subject to regulation under Chapter 17.60, Flood and Slope Hazard (FSH) Overlay District.

Response: The above listed information is provided, as applicable. There are no existing structures or areas of mapped Flood and Slope Hazard (FSH) overlay on the property. The submittal criteria are met.

- G. Narrative Statement explaining the proposal and addressing:
 - 1. Availability, capacity and status of existing water, sewer, drainage, transportation, fire, park and school facilities;

Response: The project involves annexation for the purpose of providing public facilities (e.g. transportation facility and parkland). Although Bailey Meadows Subdivision provides for and meets Sandy Development Code criteria for on-site needs, in this case the City and Applicant agree to off-site improvements (i.e., Gunderson Road extension and parkland dedication). Annexation will not create a demand for sewer, water, utility fire, or school needs, nor will the project allow residential density. The submittal criteria are met.



-
2. Additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand; and,

Response: The project involves annexation for the purpose of providing public facilities as described above. Annexation will not create a demand for sewer, water, utility fire, or school needs, nor will the project allow residential density. The project is not planned to be phased. The submittal criteria are met.

3. Method and source of financing required to provide additional facilities, if any.

Response: As described above, the purpose of this annexation application is to provide public facilities (e.g. transportation and parkland dedication) that should be located within the City. Annexation does not create the need for additional facilities. Therefore, financing methods are not applicable.

17.78.70 REVIEW PROCEDURE

Type A, B & C

1. Pre-application conference;
2. Submission of completed application;
3. Review by Planning Commission with recommendation to City Council;
4. Review by City Council.

Response: The pre-application conference requirement was waived by the Sandy Planning Director in an email dated December 9, 2019. The applicable above procedural review items are understood.

17.78.80 EXCEPTIONS

Exceptions may be granted for identified health hazards and for those matters which the City Council determines that the public interest would not be served by undertaking the entire annexation process. The City Council may authorize an exception to any of the requirements of this chapter. An exception shall require a statement of findings that indicates the basis for the exception.

Response: This application does not require exceptions. The above criterion is understood and not applicable.

17.78.90 ANNEXATION CONDITIONS

- A. All properties annexed are subject to inclusion within applicable advance financing districts and urban renewal districts.
- B. These conditions apply to all annexed properties regardless of transfers of the ownership of such properties.

Response: The subject property may be included within applicable districts, if any apply. The criteria can be met.



IV. Conclusion

The required findings have been made and this written narrative and accompanying documentation demonstrate that the application is consistent with the applicable provisions of the City of Sandy Development Code. The evidence in the record supports approval of the application and the City can rely upon it for its approval of the application.



EXHIBIT KEY MAP

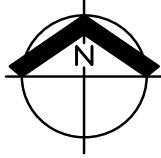
EXHIBIT F

TAX LOT 807
TAX MAP
2 4E 23

TAX LOT 800
TAX MAP
2 4E 23

TAX LOT 803
TAX MAP 2 4E 23

PONDER LANE



SCALE: 1" = 150 FEET



TAX LOT 701
TAX MAP 2 4E 23

TAX LOT 700
TAX MAP 2 4E 23

TAX LOT 502
TAX MAP 2 4E 23

TAX LOT 518
TAX MAP 2 4E 23

TAX LOT 501
TAX MAP 2 4E 23

TAX LOT 600
TAX MAP 2 4E 23

WOODBURN SANDY
HIGHWAY

- ① PARK LAND (2.38 ACRES±)
TO BE ZONED PARKS AND OPEN SPACE (POS)
- ② PERMANENT SLOPE EASEMENT/
TEMPORARY CONSTRUCTION EASEMENT (0.44 ACRES±)
- ③ PUBLIC RIGHT-OF-WAY DEDICATION (1.02 ACRES±)
TO BE ZONED SINGLE FAMILY RESIDENTIAL (SFR)
- ④ PUBLIC UTILITY EASEMENT (0.11 ACRES±)
- ⑤ STORMWATER FACILITY (0.69 ACRES±)
TO BE ZONED SINGLE FAMILY RESIDENTIAL (SFR)
- ⑥ PERMANENT SLOPE EASEMENT/
TEMPORARY CONSTRUCTION EASEMENT (0.27 ACRES±)
TO BE ZONED SINGLE FAMILY RESIDENTIAL (SFR)
- ⑦ HIGHWAY ANNEXATION (2.05 ACRES±)
(CITY ZONING NOT ANTICIPATED TO BE PROVIDED OR
NECESSARY)

3/18/2020

REGISTERED
PROFESSIONAL
LAND SURVEYOR

Benjamin R Huff
OREGON
MARCH 14, 2017
BENJAMIN R HUFF
84738PLS

RENEWS: 6/30/21

PREPARED FOR
ALLIED HOMES & DEVELOPMENT
12042 SE SUNNYSIDE ROAD, SUITE 706
CLACKAMAS, OR 97015

GUNDERSON ROAD AND PARKLAND ANNEXATION AND ZONING MAP AMENDMENT		EXHIBIT KEY
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 503.563.6151 WWW.AKS-ENG.COM		DRWN: WCB CHKD: BRH AKS JOB: 7107





AKS ENGINEERING & FORESTRY, LLC
12965 SW Herman Road, Suite 100, Tualatin, OR 97062
P: (503) 563-6151 | www.aks-eng.com

AKS Job #7107

OFFICES IN: BEND, OR - KEIZER, OR - TUALATIN, OR - VANCOUVER, WA

EXHIBIT A
Legal Description

EXHIBIT G

A tract of land, and a portion of right-of-way, located in the Northeast One-Quarter of Section 23, Township 2 South, Range 4 East, Willamette Meridian, Clackamas County, Oregon, and being more particularly described as follows:

Commencing at the northeast corner of Parcel 1 of Partition Plat 2018-030, Clackamas County Plat Records; thence along the north line of Document Number 93-28438, Clackamas County Deed Records, South 89°52'25" East 823.67 feet to the Point of Beginning; thence continuing along said north line, South 89°52'25" East 495.53 feet to the northeast corner of said deed; thence along the east line of said deed and the southerly extension thereof, South 01°24'04" West 532.91 feet to the southeasterly right-of-way line of Woodburn-Sandy Highway (40.00 feet from centerline); thence along said southeasterly right-of-way line, South 35°02'39" West 456.17 feet; thence along a curve to the Right with a Radius of 1186.30 feet, a Delta of 21°06'00", a Length of 436.86 feet, and a Chord of South 45°35'39" West 434.05 feet; thence South 56°08'39" West 180.12 feet; thence leaving said southeasterly right-of-way line, North 33°51'21" West 80.00 feet to said northwesterly right-of-way line; thence along said northwesterly right-of-way line, North 56°08'39" East 180.12 feet; thence along a curve to the Left with a Radius of 1106.30 feet, a Delta of 21°06'00", a Length of 407.40 feet, and a Chord of N45°35'39" East 405.10 feet; thence North 35°02'39" East 17.78 feet to the southwesterly corner of said deed; thence leaving said northwesterly right-of-way line and along the southwesterly line of said deed, North 49°21'56" West 200.96 feet; thence leaving said southwesterly line, North 35°02'39" East 150.72 feet; thence South 49°21'56" East 160.76 feet to a line which is parallel with and 40.00 feet northwesterly of, when measured at right angles to, said northwesterly right-of-way line; thence along said parallel line, North 35°02'39" East 295.25 feet; thence leaving said parallel line, North 54°57'21" West 25.00 feet; thence along a curve to the right with a Radius of 533.00 feet, a Delta of 23°05'54", a Length of 214.88 feet, and a Chord of North 43°24'23" West 213.42 feet; thence along a curve to the left with a Radius of 467.00 feet, a Delta of 41°16'55", a Length of 336.48 feet, and a Chord of North 52°29'54" West 329.25 feet to a point of non-tangency (Radial Bearing of South 16°51'38" West); thence North 23°37'27" East 93.53 feet to the Point of Beginning.

The above described tract of land contains 6.42 acres, more or less.

3/4/2020



EXHIBIT H

Technical Memorandum

To: Cody Bjugan, Allied Homes & Development
From: Jessica Hijar
Date: January 6, 2020
Subject: UGB Amendment & Gunderson Road Connection
 Traffic Impact Analysis, Addendum #1



This memorandum is written as an addendum to the Bailey Meadows Subdivision Traffic Impact Analysis prepared by Lancaster Engineering dated June 20, 2019. Specifically, analysis is provided regarding the potential new roadway connection to Highway 211. The current planning effort includes a connection of Gunderson Road to Highway 211 as considered in the City of Sandy’s Transportation System Plan (TSP).

In addition, this memorandum addresses the Transportation Planning Rule and associated approval criteria relative to the proposed Urban Growth Boundary (UGB) amendment, comprehensive plan and zone map amendments, and annexation applications. All of these are necessary to accommodate a connection of Gunderson Road to Highway 211.

Future Roadway Connection

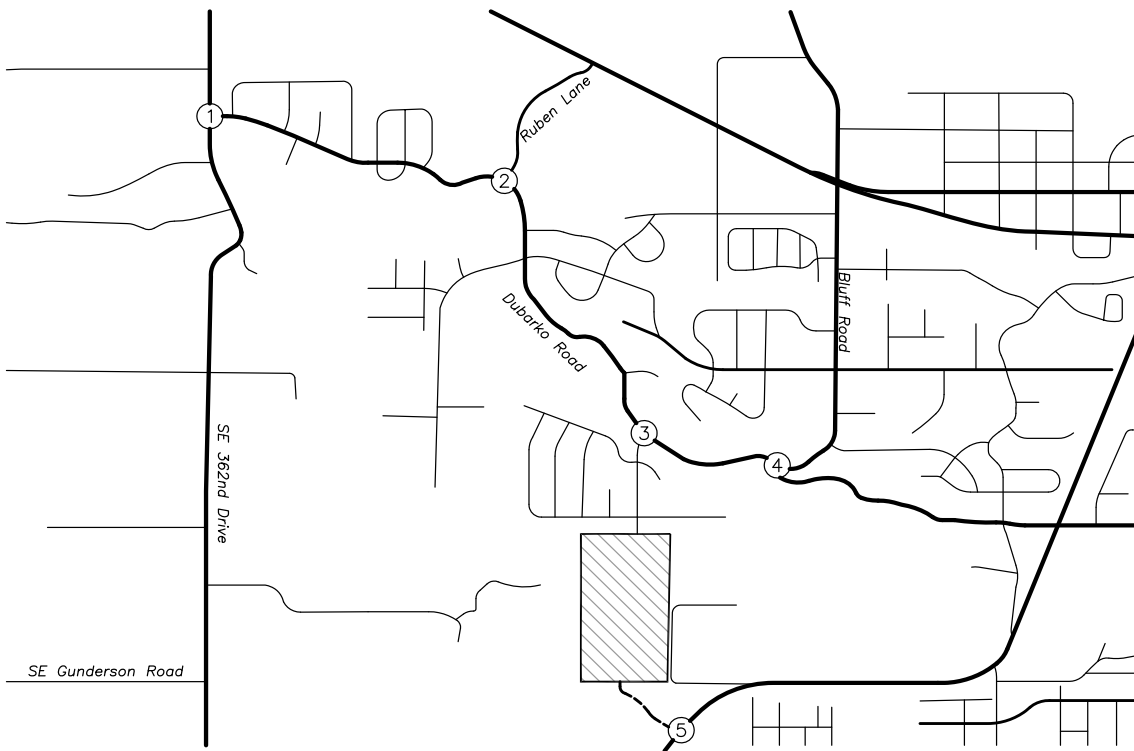
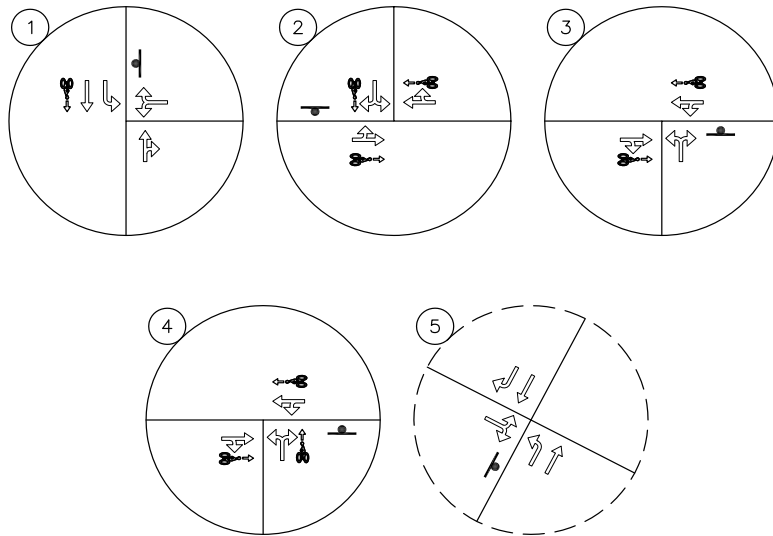
The planned connection of Gunderson Road to Highway 211 will provide an additional route into and out of the Bailey Meadows subdivision as well as the existing neighborhood to the north. This will reduce reliance on Melissa Avenue, which will provide access to the Bailey Meadows subdivision via Dubarko Road. The planned intersection of Gunderson Road at Highway 211 will be a three-legged intersection that is stop-controlled for the SE Gunderson Road approach. Future development on the south side of Highway 211 could extend the street to the east, to eventually connect with Cascadia Village Drive, as shown in the TSP. The existing characteristics of the subject roadways are shown in Table 1. The existing and future intersection configurations are shown in Figure 1 on page two.

Table 1: Vicinity Roadway Characteristics

Street Name	Jurisdiction	Classification	Speed (MPH)	Curbs	Sidewalks	Bicycle Lanes
Highway 211	ODOT	District Highway	45-55 mph posted	No	No	Partial
Gunderson Road (planned)	City of Sandy	Future Minor Arterial	Not Posted	Partial	Partial	Yes

LEGEND

-  STUDY INTERSECTION (EXISTING)
-  STUDY INTERSECTION (PROPOSED)
-  STOP SIGN
-  BIKE LANE
-  PROJECT SITE
-  ARTERIAL ROADWAY
-  COLLECTOR ROADWAY
-  LOCAL ROADWAY
-  FUTURE MINOR ARTERIAL



VICINITY MAP



FIGURE 1

PAGE 2



Trip Distribution

The Gunderson connection to Highway 211 is expected to serve trips to and from the Bailey Meadows subdivision, as well as trips from the existing neighborhood north of Bailey Meadows, which currently uses only Melissa Avenue. Based on travel time studies, it is not expected that traffic from outside the immediate area (such as residents in Bornstedt Village or Cascadia Village) would use the new Gunderson Road connection as a bypass route. Those trips would have to use Gunderson Road, three different streets within Bailey Meadows, Melissa Avenue, and Dubarko Road. This would be a very circuitous route and would not be faster than existing travel routes serving these neighborhoods.

Bailey Meadows Trips

The overall directional distribution of site trips to and from Bailey Meadows was based on the original TIS, but trip routing was modified to reflect the new street connection.

To & From the East

It is expected that the 15 percent of site trips in the TIS previously assigned to Dubarko Road to the east will all use the new Gunderson Road connection. Turning left onto Highway 211 at the new intersection will have significantly lower delay than turning left or crossing Highway 211 at Dubarko Road.

Contribution: 15% via Gunderson

To & From the South

A total of 10 percent of the trips are expected to be to and from the south, and all these trips will use the Gunderson Road connection to Highway 211, since that will be a much more direct route.

Contribution: 10% via Gunderson

To & From the West

Trips to and from the west (30%) were assigned primarily to 362nd Avenue, as this is the quickest route to shopping destinations as well as Highway 26 west of Sandy. Travel time studies show that the route using Dubarko Road to 362nd Avenue is identical in time to the route using Highway 211 to 362nd Avenue. Therefore, the 30% was split evenly via Melissa Avenue to the north and Gunderson Road to the south.

Contribution: 15% via Gunderson

The total percentage of site trips using Gunderson Road is 40 percent, or 378 of the site's 944 trips per day.



Rerouted Existing Trips

Since 40 percent of the Bailey Meadows trips are expected to use the Gunderson Road connection to Highway 211, it is expected that a similar, although slightly lower percentage of the existing neighborhood traffic would also use Gunderson. Since the existing neighborhood is north of the project site, the use of Gunderson could decrease from 40 percent to approximately 30 percent. As shown in the TIS, the existing traffic volume on Melissa Avenue was measured to be 1160 vehicles per day.

In total, 30 percent of the existing 1160 average daily traffic (ADT) on Melissa Avenue would reroute via Gunderson Road, or 348 trips per day.

In summary, the table below shows the total daily traffic volumes to the north (via Melissa Avenue) and to the south (via Gunderson Road) with the future street connection in place.

Table 2: Trip Distribution Summary

	Daily Traffic Volumes	
	Melissa Avenue	Gunderson Road
Existing neighborhood traffic	1160	0
Existing neighborhood traffic w/ Gunderson	812	348
Bailey Meadows site trips with Gunderson	566	378
<i>Total Daily Volume with Gunderson</i>	<i>1378</i>	<i>726</i>

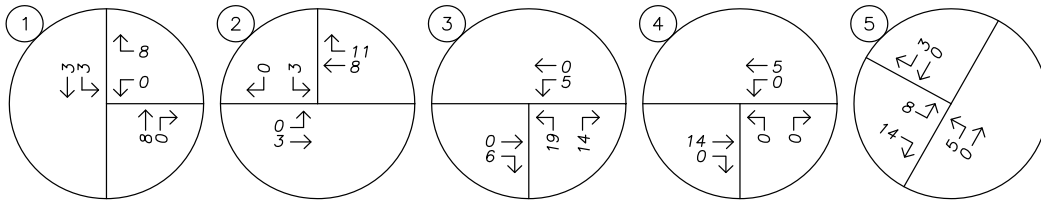
The updated trip distribution and assignment during the morning and evening peak hours are shown in Figure 2 on page five.

LEGEND

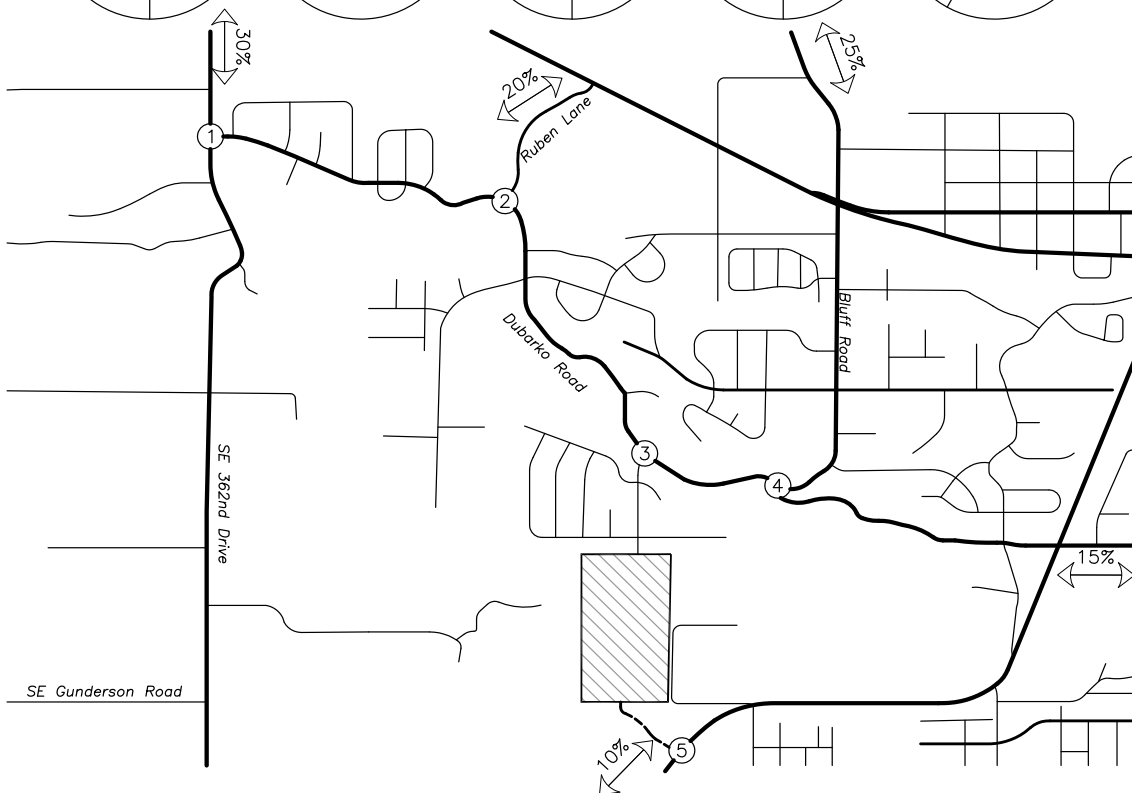
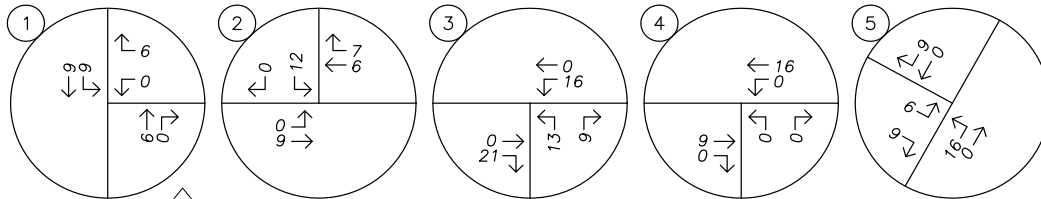
XX% PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	19	55	74
PM	62	37	99

AM PEAK HOUR



PM PEAK HOUR



SITE TRIP DISTRIBUTION & ASSIGNMENT
 Proposed Development Plan – Site Trips
 AM & PM Peak Hours



FIGURE
2
PAGE
5



Traffic Volumes

Existing Conditions

Twenty-four-hour speed data was collected on Highway 211 near the intersection with Ponder Lane on December 4th, 2018. The morning and evening peak hours of traffic occurred between 7:00 AM and 8:00 AM and between 4:00 PM and 5:00 PM, respectively.

Since Highway 211 is under the jurisdiction of ODOT, highway traffic volumes were seasonally adjusted to reflect the 30th highest hour per methodologies in ODOT's Analysis Procedures Manual (APM). Based on the commuter seasonal trend in ODOT's 2018 Seasonal Trend Table, a seasonal factor of 1.122 was calculated and applied to through volumes on Highway 211.

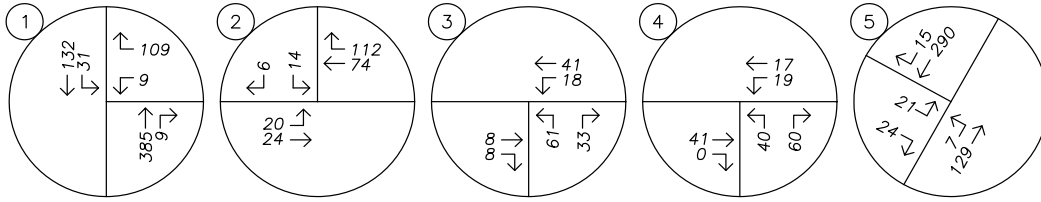
Buildout Conditions

A compounded growth rate of two percent per year was used to estimate growth on all streets under the City of Sandy jurisdiction as described within the TIS. Growth rates for traffic volumes on Highway 211 were derived using ODOT's 2037 Future Volume Tables in accordance with the APM. Using data corresponding to mileposts 3.75 and 5.07, a linear growth rate of 2.8 percent was calculated and applied to through volumes on the highway. Traffic volumes were projected over a period of four years in order to estimate the year 2022 buildout traffic volumes (traffic count data was collected in 2018).

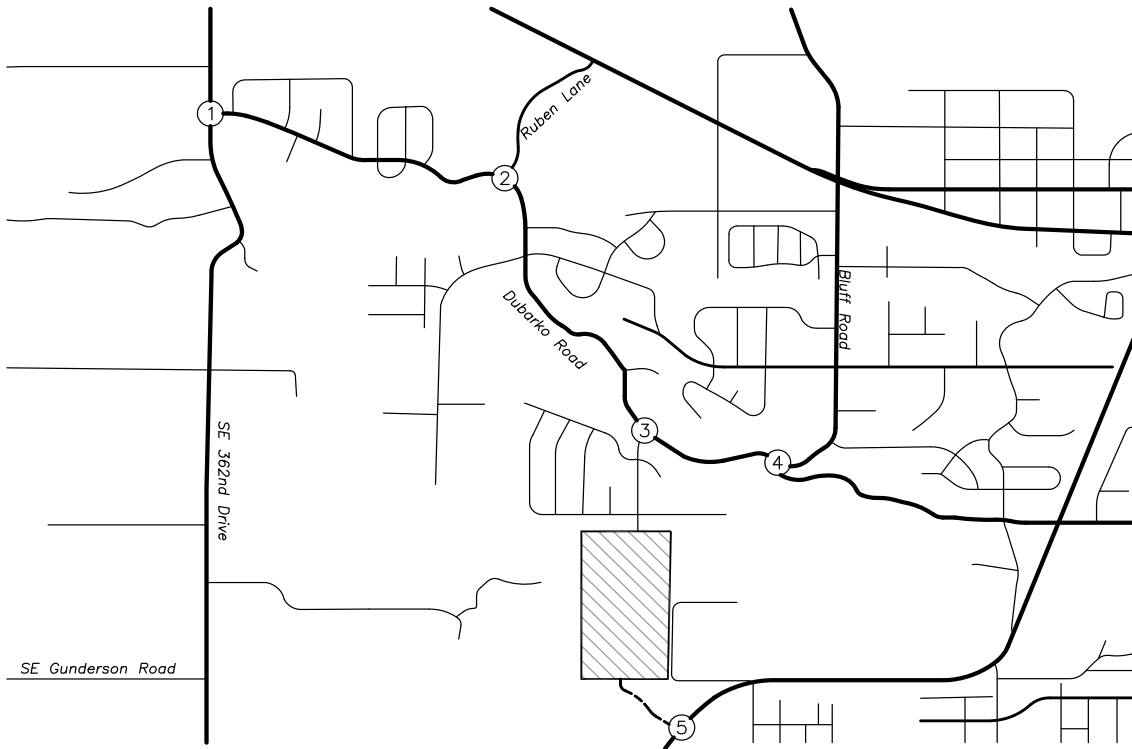
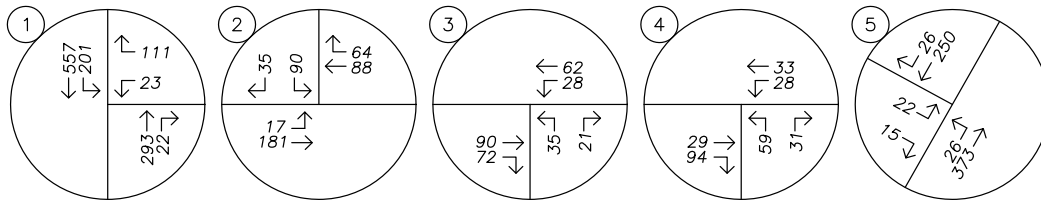
The year 2022 buildout scenario was updated to include a redistribution of existing trips that are likely to use the new Highway 211 roadway connection. Finally, site trips generated by the Bailey Meadows subdivision, discussed previously within the Trip Distribution section, were added to the projected year 2022 volumes in order to obtain the year 2022 buildout traffic volumes.

The year 2022 buildout traffic volumes are shown in Figure 3 on page seven.

AM PEAK HOUR



PM PEAK HOUR



TRAFFIC VOLUMES
 Year 2022 Buildout Traffic Volumes
 AM & PM Peak Hours



no scale

FIGURE 3

PAGE 7



January 6, 2020
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Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for all study intersections based on methodologies in the *Manual on Uniform Traffic Control Devices*¹ (MUTCD) and the Analysis Procedures Manual. Warrant 1, *Eight Hour Vehicular Volumes*, was used from the MUTCD. Warrants were evaluated based on the common assumption that traffic counted during the evening peak hour represents ten percent of the AADT and that the eighth-highest hour is 5.6 percent of the daily traffic. Volumes were used for the evening peak hour under the year 2022 buildout scenario.

For the intersection under ODOT jurisdiction, the APM dictates that minor-street right turns are only used if the volume exceeds 85 percent of the lane capacity, and even then, only the increment of volume in excess of 85 percent can be used. In this case, none of the right turns can be used for the purpose of the signal warrant analysis.

Due to insufficient minor street volumes, traffic signal warrants are not met at the intersection of SE Gunderson Road at Highway 211 under year 2022 buildout scenario.

Left-Turn Lane Warrants

Left-turn lane warrants were examined at the planned intersection of Highway 211 at SE Gunderson Road. A left-turn refuge is primarily a safety consideration for the major-street approach, removing left-turning vehicles from the through traffic stream.

Warrants were examined based on the design curves developed by the Texas Transportation Institute, as adopted by the APM. This methodology evaluates the need for a left-turn lane based on the number of left-turning vehicles, the number of travel lanes, the number of advancing and opposing vehicles, and the roadway travel speed.

A left-turn lane is warranted at the intersection of SE Gunderson Road at Highway 211 under the year 2022 buildout scenario and it is recommended that a left-turn lane be constructed as part of the intersection improvements.

¹ Federal Highway Administration (FTA), American Traffic Safety Services Association (ATSSA), Institute of Transportation Engineers (ITE), American Association of State Highway and Transportation Officials (AASHTO), *Manual of Uniform Traffic Control Devices for Streets and Highways* (MUTCD), 2009 Edition, 2010



Operational Analysis

A capacity analysis was conducted for the study intersection per the unsignalized intersection analysis methodologies in the *Highway Capacity Manual*² (HCM). Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

The City of Sandy's TSP states that both signalized and unsignalized intersections are required to operate at LOS D or better.

The applicable minimum operational standards for ODOT facilities are established under the Oregon Highway Plan and are based on the classification of the roadway and its v/c ratio. District highways located outside the Urban Growth Boundary and within an unincorporated community has a peak hour v/c ratio target of 0.80.

Table 3: Intersection Capacity Analysis Summary

	Morning Peak Hour			Evening Peak Hour		
	Delay	LOS	V/C	Delay	LOS	V/C
SE 362nd Drive at Dubarko Road						
Year 2022 Buildout Conditions	13	B	0.24	19	C	0.36
Ruben Lane at Dubarko Road						
Year 2022 Buildout Conditions	10	A	0.03	12	B	0.21
Dubarko Road at Melissa Avenue						
Year 2022 Buildout Conditions	9	A	0.13	10	B	0.09
Dubarko Road at Bluff Road						
Year 2022 Buildout Conditions	8	A	0.16	8	A	0.15
Highway 211 at SE Gunderson Road						
Year 2022 Buildout Conditions	11	B	0.08	13	B	0.08

All intersections are projected to operate within the City of Sandy and ODOT's operational standards under all analysis scenarios.

² Transportation Research Board, *Highway Capacity Manual, 6th Edition, 2016*.



Intersection Location

The City of Sandy TSP shows a planning-level depiction of the Gunderson Road extension that was outside of the UGB at the time the TSP was adopted but is within the current UGB. This is shown below in Figure 4.

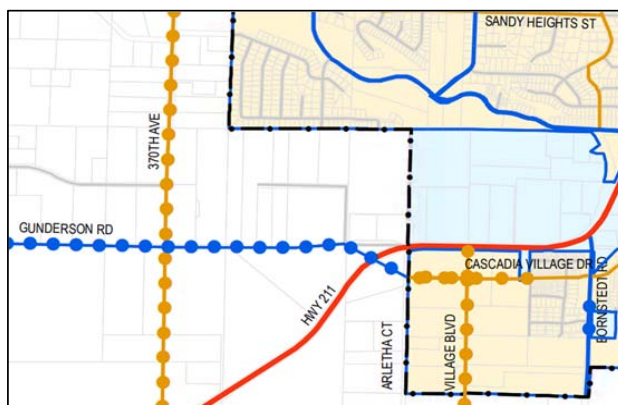


Figure 4: Alignment from Sandy TSP

However, upon closer investigation and engineering analysis, it was determined that the alignment shown on the TSP was not feasible for construction of an intersection with Highway 211, primarily due to poor sight distance, the need for a perpendicular intersection, and a very steep superelevated roadway section.

Looking to the northeast from the TSP-identified location, sight distance is limited by both horizontal and vertical curves on Highway 211. In addition, sight distance from the future fourth leg of the intersection would be particularly poor. At

the TSP-identified location, the highway was designed for moving traffic, not for accommodation of an intersection. Due to the high design speed and the horizontal curve, superelevation (the banking of the roadway around the curve) is very steep. This facilitates through traffic on the highway, but makes an intersection at this location problematic, due to difficult turning and crossing movements across the steep curve.

Need for UGB Expansion

The nearest suitable intersection location was found to be farther to the southwest, at the location currently proposed for a UGB amendment. From this location, it is far enough from the horizontal and vertical curves to the northeast to have adequate sight distance and far enough southwest of the curve to not be in a

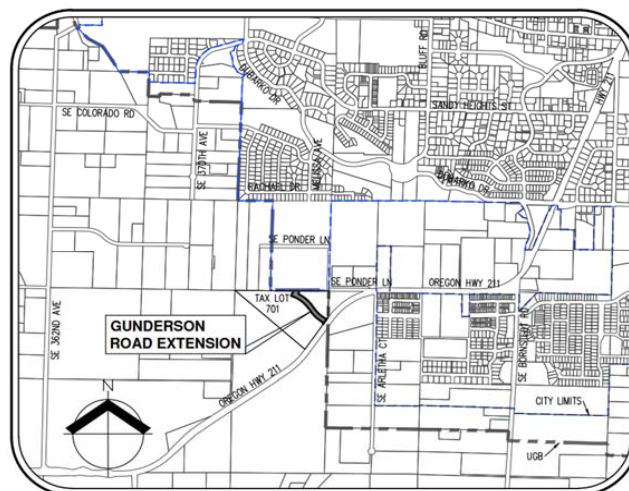


Figure 5: Planned Alignment



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superelevated roadway section. However, this alignment is outside of the current UGB of the City of Sandy, as shown in Figure 5. As such, a UGB amendment is proposed to accommodate the road extension.

With the proposed UGB amendment, there will be a triangle-shaped remnant piece of property that will also be brought into the UGB. This remnant is approximately 2.38 acres in size and is proposed to be dedicated as a public neighborhood park. This will be a small, passive-use neighborhood park that will be used primarily by the residents in the area. Trips to and from the park will be primarily pedestrian and bicycle trips and no separate parking lot is planned.

Oregon Administrative Rules

The proposed UGB amendment, comprehensive plan and zone map amendments, and annexation applications trigger the need to address the Transportation Planning Rule (TPR) and associated criteria from the Oregon Administrative Rules. These are addressed below.

OAR 660-012-0060 Transportation Planning Rule

The primary purpose of the TPR is to account for the potential transportation impacts associated with any amendments to adopted plans and land use regulations. The TPR is quoted in *italics* below, with a response immediately following each section.

1. *If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

- (a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*

Response: The proposed UGB amendment, comprehensive plan and zone map amendment, and annexation will not change the functional classification of any transportation facilities. In fact, it will implement planned roadway connections in the TSP.

- (b) Change standards implementing a functional classification system; or*

Response: The standards that implement the functional classification system are contained in the TSP and will not change as part of this proposal.

- (c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing*



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requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

- (A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*
- (B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or*
- (C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.*

Response: The proposed UGB amendment and associated plan amendments will facilitate the Gunderson Road connection and will not result in developable property that will increase trip generation. In fact, by facilitating an important street connection it is implementing the City of Sandy TSP, will improve connectivity for the neighborhood, and will improve performance of the surrounding transportation system. The proposal will not result in a significant effect as defined by the TPR and no mitigations are necessary.

OAD 660-024-0065 Establishment of Study Area to Evaluate Land for Inclusion in the UGB

This section of the OAR is specific to UGB expansions and speaks to public facilities (such as transportation facilities) that require specific site characteristics. The OAR is quoted in *italics* below, with a response immediately following each section.

- 3. *When the primary purpose for expansion of the UGB is to accommodate a particular industrial use that requires specific site characteristics, or to accommodate a public facility that requires specific site characteristics, and the site characteristics may be found in only a small number of locations, the preliminary study area may be limited to those locations within the distance described in section (1) or (2), whichever is appropriate, that have or could be improved to provide the required site characteristics. For purposes of this section:*

- (a) The definition of "site characteristics" in OAR 660-009-0005(11) applies for purposes of identifying a particular industrial use.*

Response: In OAR 660-009-0005(11), "Site Characteristics" are defined by visibility, proximity to a particular transportation facility, and major transportation routes. In this case, the "site" for the UGB amendment is very narrowly defined and the location between the subdivision and Highway 211 is dictated by engineering standards that must be satisfied for a safe and efficient intersection location.

- (b) A "public facility" may include a facility necessary for public sewer, water, storm water, transportation, parks, schools, or fire protection. Site characteristics may include but are not limited to size, topography and proximity.*



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Response: Since the primary purpose of the proposed UGB amendment is to accommodate the extension of Gunderson Road to Highway 211, it is by definition a “public facility”. Site characteristics such as topography are what have dictated the need for the intersection in the location as proposed. Additionally, the applicant is providing area for a neighborhood park, a minor public facility.

Summary & Conclusions

The proposed UGB amendment, comprehensive plan and zone map amendments, and annexation will implement the City of Sandy TSP and result in improved operation at the study area roadways and intersections. The connection will improve conditions for the existing neighborhood to the north of the Bailey Meadows subdivision by providing another means of vehicular access to the area.



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Appendix

Traffic Signal Warrant Analysis

Project: 18197 - Ponder Subdivision
 Date: 1/6/2020
 Scenario: Year 2022 Buildout Conditions - Evening Peak Hour

Major Street: Highway 211 Minor Street: SE Gunderson Road
 Number of Lanes: 1 Number of Lanes: 1
 PM Peak Hour Volumes: 675 PM Peak Hour Volumes: 22

Warrant Used:
 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	6,750	8,850	
Minor Street*	220	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	6,750	13,300	
Minor Street*	220	1,350	No
<i>Combination Warrant</i>			
Major Street	6,750	10,640	
Minor Street*	220	2,120	No

* Minor street right-turning traffic volumes reduced by 85% of the turn lane capacity.



Project: Bailey Meadows Subdivision
 Intersection: Highway 211 at SE Gunderson Road
 Date: 1/6/2020
 Scenario: 2022 Buildout conditions

Speed? 45 mph

PM Peak Hour

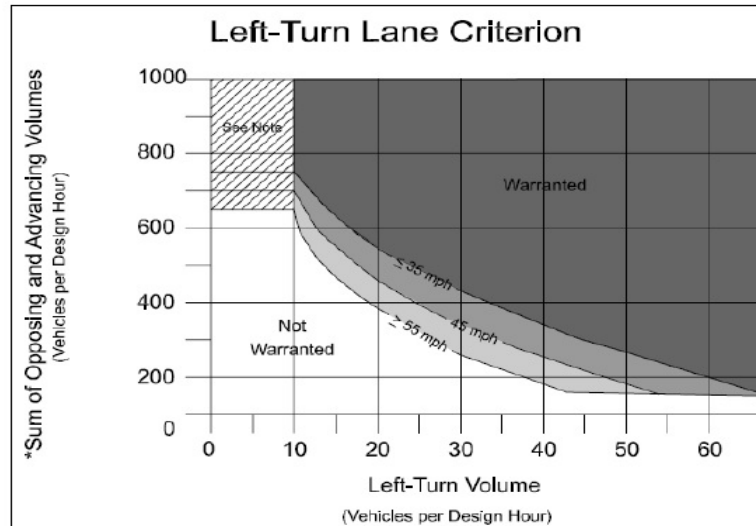
Left-Turn Volume 26

Approaching DHV 250
 # of Advancing Through Lanes 1

Opposing DHV 399
 # of Opposing Through Lanes 1

O+A DHV 649

Lane Needed? **Yes**



Source: Oregon DOT Analysis Procedures Manual 2008

*** (Advancing Vol/ # of Advancing Through Lanes) +
 (Opposing Vol/ # of Opposing Through Lanes)**

Note: The criterion is not met from zero to ten left turn vehicles per hour, but careful consideration should be given to installing a left turn lane due to the increased potential for accidents in the through lanes. While the turn volumes are low, the adverse safety and operational impacts may require installation of a left turn. The final determination will be based on a field study.

Lanes, Volumes, Timings
 1: SE 362nd Drive & Dubarko Road

12/13/2019



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	109	385	9	31	132
Future Volume (vph)	9	109	385	9	31	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	115	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.876		0.997			
Flt Protected	0.996				0.950	
Satd. Flow (prot)	1641	0	1857	0	1703	1792
Flt Permitted	0.996				0.950	
Satd. Flow (perm)	1641	0	1857	0	1703	1792
Link Speed (mph)	25		35		35	
Link Distance (ft)	435		701		662	
Travel Time (s)	11.9		13.7		12.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	1%	1%	2%	2%	6%	6%
Adj. Flow (vph)	11	128	453	11	36	155
Shared Lane Traffic (%)						
Lane Group Flow (vph)	139	0	464	0	36	155
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	39.7%			ICU Level of Service A		
Analysis Period (min)	15					

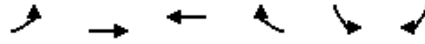
HCM 6th TWSC
1: SE 362nd Drive & Dubarko Road

12/13/2019

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	9	109	385	9	31	132
Future Vol, veh/h	9	109	385	9	31	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	115	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	2	2	6	6
Mvmt Flow	11	128	453	11	36	155
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	686	459	0	0	464	
Stage 1	459	-	-	-	-	
Stage 2	227	-	-	-	-	
Critical Hdwy	6.41	6.21	-	-	4.16	
Critical Hdwy Stg 1	5.41	-	-	-	-	
Critical Hdwy Stg 2	5.41	-	-	-	-	
Follow-up Hdwy	3.509	3.309	-	-	2.254	
Pot Cap-1 Maneuver	415	604	-	-	1077	
Stage 1	638	-	-	-	-	
Stage 2	813	-	-	-	-	
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	401	604	-	-	1077	
Mov Cap-2 Maneuver	401	-	-	-	-	
Stage 1	617	-	-	-	-	
Stage 2	813	-	-	-	-	
Approach	WB	NB		SB		
HCM Control Delay, s	13.1	0		1.6		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	582	1077	-	
HCM Lane V/C Ratio	-	-	0.239	0.034	-	
HCM Control Delay (s)	-	-	13.1	8.5	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-	

Lanes, Volumes, Timings
2: Dubarko Road & Ruben Lane

12/13/2019



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↘	↘
Traffic Volume (vph)	20	24	74	112	14	6
Future Volume (vph)	20	24	74	112	14	6
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr t			0.919		0.959	
Flt Protected		0.978			0.966	
Satd. Flow (prot)	0	1753	1712	0	1558	0
Flt Permitted		0.978			0.966	
Satd. Flow (perm)	0	1753	1712	0	1558	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		560	633		717	
Travel Time (s)		15.3	17.3		19.6	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	6%	2%	2%	13%	13%
Adj. Flow (vph)	22	27	83	126	16	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	49	209	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	27.4%			ICU Level of Service A		
Analysis Period (min)	15					

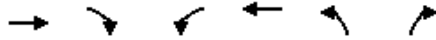
HCM 6th TWSC
2: Dubarko Road & Ruben Lane

12/13/2019

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	20	24	74	112	14	6
Future Vol, veh/h	20	24	74	112	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	2	2	13	13
Mvmt Flow	22	27	83	126	16	7
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	209	0	-	0	217	146
Stage 1	-	-	-	-	146	-
Stage 2	-	-	-	-	71	-
Critical Hdwy	4.16	-	-	-	6.53	6.33
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	2.254	-	-	-	3.617	3.417
Pot Cap-1 Maneuver	1338	-	-	-	747	873
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	925	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1338	-	-	-	734	873
Mov Cap-2 Maneuver	-	-	-	-	734	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	925	-
Approach	EB	WB	SB			
HCM Control Delay, s	3.5	0	9.8			
HCM LOS			A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1338	-	-	-	771	
HCM Lane V/C Ratio	0.017	-	-	-	0.029	
HCM Control Delay (s)	7.7	0	-	-	9.8	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	

Lanes, Volumes, Timings
3: Melissa Avenue & Dubarko Road

12/13/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	8	8	18	41	61	33
Future Volume (vph)	8	8	18	41	61	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t	0.932				0.952	
Flt Protected			0.985		0.969	
Satd. Flow (prot)	1451	0	0	1835	1718	0
Flt Permitted			0.985		0.969	
Satd. Flow (perm)	1451	0	0	1835	1718	0
Link Speed (mph)	25		25		25	
Link Distance (ft)	1479		1123		1279	
Travel Time (s)	40.3		30.6		34.9	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	22%	22%	2%	2%	2%	2%
Adj. Flow (vph)	10	10	23	52	77	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	0	75	119	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0		0		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15		15	
Sign Control	Free		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	21.9%			ICU Level of Service A		
Analysis Period (min)	15					

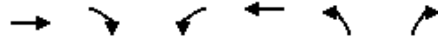
HCM 6th TWSC
3: Melissa Avenue & Dubarko Road

12/13/2019

Intersection						
Int Delay, s/veh	6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	8	8	18	41	61	33
Future Vol, veh/h	8	8	18	41	61	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	22	22	2	2	2	2
Mvmt Flow	10	10	23	52	77	42
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	20	0	113	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1596	-	884	1065
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1596	-	871	1065
Mov Cap-2 Maneuver	-	-	-	-	871	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	926	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	2.2	9.4			
HCM LOS			A			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	931	-	-	1596	-	
HCM Lane V/C Ratio	0.128	-	-	0.014	-	
HCM Control Delay (s)	9.4	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.4	-	-	0	-	

Lanes, Volumes, Timings
4: Dubarko Road & Bluff Road

12/13/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (vph)	41	0	19	17	40	60
Future Volume (vph)	41	0	19	17	40	60
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr t					0.919	
Flt Protected				0.974	0.980	
Satd. Flow (prot)	1696	0	0	1698	1645	0
Flt Permitted				0.974	0.980	
Satd. Flow (perm)	1696	0	0	1698	1645	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	750			780	615	
Travel Time (s)	20.5			21.3	16.8	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles (%)	12%	12%	9%	9%	4%	4%
Adj. Flow (vph)	59	0	27	24	57	86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	0	51	143	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	21.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th AWSC
4: Dubarko Road & Bluff Road

12/13/2019

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	
Traffic Vol, veh/h	41	0	19	17	40	60
Future Vol, veh/h	41	0	19	17	40	60
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	12	12	9	9	4	4
Mvmt Flow	59	0	27	24	57	86
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.8	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	40%	0%	53%
Vol Thru, %	0%	100%	47%
Vol Right, %	60%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	100	41	36
LT Vol	40	0	19
Through Vol	0	41	17
RT Vol	60	0	0
Lane Flow Rate	143	59	51
Geometry Grp	1	1	1
Degree of Util (X)	0.154	0.072	0.064
Departure Headway (Hd)	3.877	4.396	4.456
Convergence, Y/N	Yes	Yes	Yes
Cap	913	807	796
Service Time	1.95	2.466	2.528
HCM Lane V/C Ratio	0.157	0.073	0.064
HCM Control Delay	7.7	7.8	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.2	0.2

Lanes, Volumes, Timings
 5: Highway 211 & SE Gunderson Road

12/13/2019



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	21	24	7	129	290	15
Future Volume (vph)	21	24	7	129	290	15
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0	100			100
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.928					0.850
Flt Protected	0.977		0.950			
Satd. Flow (prot)	1556	0	1630	1716	1716	1458
Flt Permitted	0.977		0.950			
Satd. Flow (perm)	1556	0	1630	1716	1716	1458
Link Speed (mph)	30			30	30	
Link Distance (ft)	827			1043	1164	
Travel Time (s)	18.8			23.7	26.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	26	8	140	315	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	0	8	140	315	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.6%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
5: Highway 211 & SE Gunderson Road

12/13/2019

Intersection						
Int Delay, s/veh	1.1					
Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	↔		↔	↑	↑	↔
Traffic Vol, veh/h	21	24	7	129	290	15
Future Vol, veh/h	21	24	7	129	290	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	26	8	140	315	16
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	471	315	331	0	-	0
Stage 1	315	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	551	725	1228	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	872	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	547	725	1228	-	-	-
Mov Cap-2 Maneuver	547	-	-	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	872	-	-	-	-	-
Approach	SE	NE		SW		
HCM Control Delay, s	11.2	0.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR	
Capacity (veh/h)	1228	-	629	-	-	
HCM Lane V/C Ratio	0.006	-	0.078	-	-	
HCM Control Delay (s)	8	-	11.2	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.3	-	-	

Lanes, Volumes, Timings
1: SE 362nd Drive & Dubarko Road

12/13/2019



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	111	293	22	201	557
Future Volume (vph)	23	111	293	22	201	557
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	115	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.888		0.991			
Flt Protected	0.992				0.950	
Satd. Flow (prot)	1641	0	1846	0	1787	1881
Flt Permitted	0.992				0.950	
Satd. Flow (perm)	1641	0	1846	0	1787	1881
Link Speed (mph)	25		35		35	
Link Distance (ft)	435		701		662	
Travel Time (s)	11.9		13.7		12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Adj. Flow (vph)	25	121	318	24	218	605
Shared Lane Traffic (%)						
Lane Group Flow (vph)	146	0	342	0	218	605
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.0%			ICU Level of Service A		
Analysis Period (min)	15					

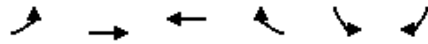
HCM 6th TWSC
1: SE 362nd Drive & Dubarko Road

12/13/2019

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	23	111	293	22	201	557
Future Vol, veh/h	23	111	293	22	201	557
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	115	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	25	121	318	24	218	605
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1371	330	0	0	342	
Stage 1	330	-	-	-	-	
Stage 2	1041	-	-	-	-	
Critical Hdwy	6.42	6.22	-	-	4.11	
Critical Hdwy Stg 1	5.42	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	
Follow-up Hdwy	3.518	3.318	-	-	2.209	
Pot Cap-1 Maneuver	161	712	-	-	1223	
Stage 1	728	-	-	-	-	
Stage 2	340	-	-	-	-	
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	132	712	-	-	1223	
Mov Cap-2 Maneuver	132	-	-	-	-	
Stage 1	598	-	-	-	-	
Stage 2	340	-	-	-	-	
Approach	WB	NB		SB		
HCM Control Delay, s	18.7	0		2.3		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	406	1223	-	
HCM Lane V/C Ratio	-	-	0.359	0.179	-	
HCM Control Delay (s)	-	-	18.7	8.6	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	1.6	0.6	-	

Lanes, Volumes, Timings
2: Dubarko Road & Ruben Lane

12/13/2019



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↘	↘
Traffic Volume (vph)	17	181	88	64	90	35
Future Volume (vph)	17	181	88	64	90	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr t			0.943		0.962	
Flt Protected		0.996			0.965	
Satd. Flow (prot)	0	1874	1792	0	1746	0
Flt Permitted		0.996			0.965	
Satd. Flow (perm)	0	1874	1792	0	1746	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		560	633		717	
Travel Time (s)		15.3	17.3		19.6	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	0%	0%	1%	1%
Adj. Flow (vph)	19	203	99	72	101	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	222	171	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	36.1%			ICU Level of Service A		
Analysis Period (min)	15					

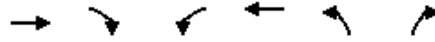
HCM 6th TWSC
2: Dubarko Road & Ruben Lane

12/13/2019

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	17	181	88	64	90	35
Future Vol, veh/h	17	181	88	64	90	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	19	203	99	72	101	39
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	171	0	-	0	376	135
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1412	-	-	-	627	917
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	801	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1412	-	-	-	618	917
Mov Cap-2 Maneuver	-	-	-	-	618	-
Stage 1	-	-	-	-	881	-
Stage 2	-	-	-	-	801	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.7	0	11.7			
HCM LOS			B			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1412	-	-	-	680	
HCM Lane V/C Ratio	0.014	-	-	-	0.207	
HCM Control Delay (s)	7.6	0	-	-	11.7	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.8	

Lanes, Volumes, Timings
3: Melissa Avenue & Dubarko Road

12/13/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	90	72	28	62	35	21
Future Volume (vph)	90	72	28	62	35	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr't	0.940				0.949	
Flt Protected			0.985		0.970	
Satd. Flow (prot)	1768	0	0	1872	1749	0
Flt Permitted			0.985		0.970	
Satd. Flow (perm)	1768	0	0	1872	1749	0
Link Speed (mph)	25		25		25	
Link Distance (ft)	1479		1123		1279	
Travel Time (s)	40.3		30.6		34.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	1%	1%	0%	0%	0%	0%
Adj. Flow (vph)	106	85	33	73	41	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	191	0	0	106	66	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0		0		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15		15	
Sign Control	Free		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	27.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th TWSC
3: Melissa Avenue & Dubarko Road

12/13/2019

Intersection						
Int Delay, s/veh	2.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	90	72	28	62	35	21
Future Vol, veh/h	90	72	28	62	35	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	106	85	33	73	41	25
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	191	0	288	149
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	139	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1395	-	707	903
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	893	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1395	-	689	903
Mov Cap-2 Maneuver	-	-	-	-	689	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	893	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	2.4	10.2			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	756	-	-	1395	-	
HCM Lane V/C Ratio	0.087	-	-	0.024	-	
HCM Control Delay (s)	10.2	-	-	7.6	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	

Lanes, Volumes, Timings
4: Dubarko Road & Bluff Road

12/13/2019



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	29	94	28	33	59	31
Future Volume (vph)	29	94	28	33	59	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.897			0.954		
Flt Protected				0.978	0.968	
Satd. Flow (prot)	1704	0	0	1858	1737	0
Flt Permitted				0.978	0.968	
Satd. Flow (perm)	1704	0	0	1858	1737	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	750			780	615	
Travel Time (s)	20.5			21.3	16.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%
Adj. Flow (vph)	34	111	33	39	69	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	145	0	0	72	105	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15	15		9
Sign Control	Stop			Stop	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.8%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th AWSC
4: Dubarko Road & Bluff Road

12/13/2019

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	
Traffic Vol, veh/h	29	94	28	33	59	31
Future Vol, veh/h	29	94	28	33	59	31
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	34	111	33	39	69	36
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.4	7.8	7.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	66%	0%	46%
Vol Thru, %	0%	24%	54%
Vol Right, %	34%	76%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	90	123	61
LT Vol	59	0	28
Through Vol	0	29	33
RT Vol	31	94	0
Lane Flow Rate	106	145	72
Geometry Grp	1	1	1
Degree of Util (X)	0.124	0.148	0.086
Departure Headway (Hd)	4.213	3.682	4.29
Convergence, Y/N	Yes	Yes	Yes
Cap	841	959	825
Service Time	2.29	1.761	2.368
HCM Lane V/C Ratio	0.126	0.151	0.087
HCM Control Delay	7.9	7.4	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.5	0.3

Lanes, Volumes, Timings
 5: Highway 211 & SE Gunderson Road

12/13/2019



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	15	26	373	250	26
Future Volume (vph)	22	15	26	373	250	26
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)	0	0	100			100
Storage Lanes	1	0	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946					0.850
Flt Protected	0.971		0.950			
Satd. Flow (prot)	1576	0	1630	1716	1716	1458
Flt Permitted	0.971		0.950			
Satd. Flow (perm)	1576	0	1630	1716	1716	1458
Link Speed (mph)	30			45	45	
Link Distance (ft)	1495			875	917	
Travel Time (s)	34.0			13.3	13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	16	28	405	272	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	28	405	272	28
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.3%
Analysis Period (min)	15
	ICU Level of Service A

HCM 6th TWSC
5: Highway 211 & SE Gunderson Road

12/13/2019

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	Y
Traffic Vol, veh/h	22	15	26	373	250	26
Future Vol, veh/h	22	15	26	373	250	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	16	28	405	272	28
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	733	272	300	0	-	0
Stage 1	272	-	-	-	-	-
Stage 2	461	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	388	767	1261	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	379	767	1261	-	-	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13.2	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1261	-	477	-	-	
HCM Lane V/C Ratio	0.022	-	0.084	-	-	
HCM Control Delay (s)	7.9	-	13.2	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Bailey Meadows Subdivision

Traffic Impact Analysis
Sandy, Oregon

Date:

June 20, 2019

Prepared for:

Cody Bjugan, Allied Homes & Development

Prepared by:

Jessica Hijar
Todd Mobley, PE



RENEWS: 12/31/2020



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Executive Summary

1. A 100-lot single family detached swelling unit subdivision is proposed for the following tax lots in Sandy, Oregon: 24E23 800, 801, 802, 803, and 804.
2. Access to the project is planned via an existing right-of-way street stub on Melissa Avenue that was created to provide access to the subject site as part of the adjoining Nicholas Glen No. 2 subdivision.
3. The proposed subdivision is calculated to generate 74 trips during the morning peak hour, 99 trips during the evening peak hour, and 944 trips each weekday.
4. Based on a review of the most recent five years of crash history, no significant safety issues or trends are evident at the study intersections.
5. Due to insufficient major and minor street volumes, preliminary traffic signal warrants were not met at the study intersections under all analysis scenarios.
6. Left-turn lane warrants were analyzed for the intersection of Melissa Avenue at Dubarko Road and not met under any analysis scenario.
7. All study intersections, including the intersection of Melissa Avenue at Dubarko Road, are currently operating within the City's performance standards and are projected to continue operating acceptably through year 2022, with or without the addition of site trips from the proposed development.



Project Description

Introduction

The proposed development will include the construction of a 100-lot subdivision to be located on tax lots 24E23 800, 801, 802, 803, and 804 in Sandy, Oregon. The site is currently within the City of Sandy Urban Growth Boundary, the city limits, and is zoned Single Family Residential (SFR), which allows the subdivision as proposed. The project will be built in three phases, with the expected completion year of 2022.

This report includes traffic counts and a full operational analysis at the intersections listed below. This scope was developed based on City of Sandy's Traffic Impact Analysis (TIA) requirements and was approved by Replinger and Associates, the City's consulting transportation engineer. Coordination of the scope of work with the Oregon Department of Transportation (ODOT) was not necessary since no intersections on the state highway are affected.

1. SE 362nd Drive at Dubarko Road,
2. Ruben Lane at Dubarko Road,
3. Dubarko Road at Melissa Avenue, and
4. Dubarko Road at Bluff Road.

The purpose of this study is to determine whether the transportation system within the vicinity of the site is capable of supporting the existing uses as well as the proposed subdivision and to determine if mitigation is necessary. Detailed information on traffic counts, trip generation calculations, safety analyses, and level-of-service calculations is included in the appendix to this report.

Location Description

The subject site is located south of Rachel Drive and west of Ponder Lane in Sandy, Oregon. Although roadway stubs will be provided within the site for future roadway connections, access to the project is planned via an existing right-of-way street stub on Melissa Avenue that was created to provide access to the subject site as part of the adjoining Nicholas Glen No. 2 subdivision.

Access to the subdivision cannot be provided via SE Ponder Lane in the southeast corner of the site since the existing right-of-way along SE Ponder Lane does not allow for two directions of travel and the current configuration of SE Ponder Lane at Highway 211 cannot support additional vehicle trips. There is not sufficient right-of-way available to realign Ponder Lane at its intersection with Highway 211. It is expected that additional access will be available to the east of the site as other properties develop.

Vicinity Streets

Five roadways have been identified in the traffic study scope. Table 1 provides a description of each of the roadways.



Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Classification	Speed (MPH)	Curbs	Sidewalks	Bicycle Lanes
SE 362 nd Drive	City of Sandy	Rural Minor Arterial	35 mph posted	Partial	Partial	Partial
Ruben Lane	City of Sandy	Collector	25 mph posted	Yes	Partial	Yes
Dubarko Road	City of Sandy	Minor Arterial	25 mph posted	Yes	Yes	Partial
Melissa Avenue	City of Sandy	Local Road	25 mph statutory	Yes	Yes	No
Bluff Road	City of Sandy	Minor Arterial	25 mph posted	Partial	Partial	Partial

Study Intersections

Four nearby intersections were identified in discussions with City staff that are expected to be impacted by the proposed project. Table 2 below provides a summary of each of the study intersections.

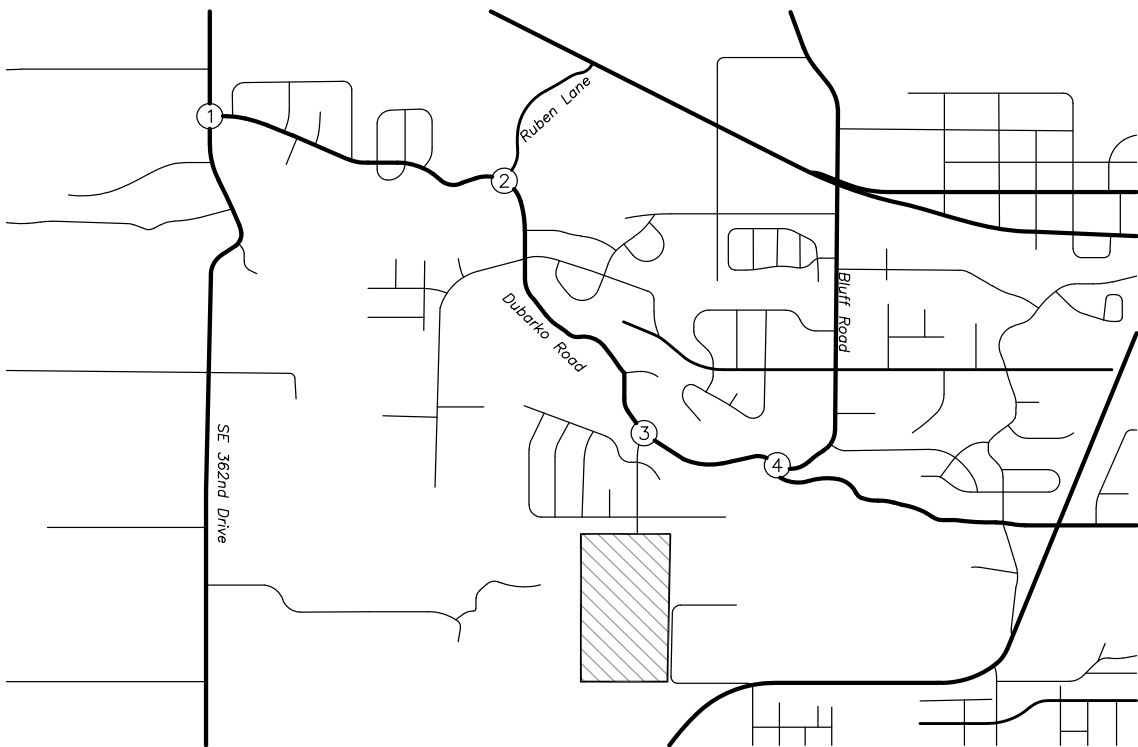
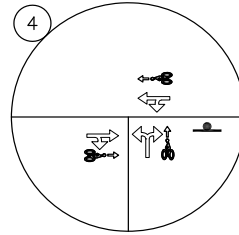
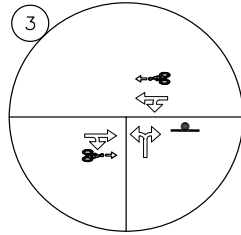
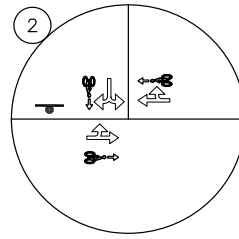
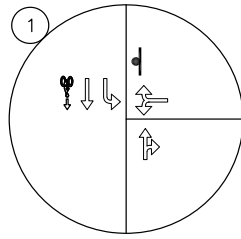
Table 2: Vicinity Intersection Descriptions

Number	Intersection	Geometry	Traffic Control	Stopped Approaches
1	SE 362 nd Drive at Dubarko Road	Three-Legged	Two-Way Stop Controlled	Westbound
2	Ruben Lane at Dubarko Road	Three-Legged	Two-Way Stop Controlled	Southbound
3	Dubarko Road at Melissa Avenue	Three-Legged	Two-Way Stop Controlled	Northbound
4	Dubarko Road at Bluff Rod	Three-Legged	All-Way Stop Controlled	All

The figure on the following page shows the site vicinity and the study intersection configurations.

LEGEND

-  STUDY INTERSECTION (EXISTING)
-  STOP SIGN
-  BIKE LANE
-  PROJECT SITE
-  ARTERIAL ROADWAY
-  COLLECTOR ROADWAY
-  LOCAL ROADWAY



VICINITY MAP



FIGURE 1

PAGE 4



Site Trips

Trip Generation

To estimate the number of trips that will be generated by the proposed use, trip rates from the *Trip Generation Manual*¹ were used. Data from land use codes 210, *Single-Family Detached Housing*, was used to estimate the proposed development's trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed subdivision is projected to generate 74 morning peak hour trips, 99 evening peak hour trips, and 944 average weekday trips. The trip generation estimates are summarized in Table 3 below and detailed trip generation calculations are included as an attachment to this report.

Table 3: Trip Generation Summary

Land Use Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
		In	Out	Total	In	Out	Total	
210 – Single-Family Detached Housing	100 units	19	55	74	62	37	99	944

Custom Trip Rates

Based on traffic counts collected at the existing intersection of Melissa Avenue at Dubarko Road and 24-hour counts collected along Melissa Avenue, a localized trip rate was derived for the existing subdivision that accesses Dubarko Road via Melissa Avenue. The custom trip rate was calculated to be 0.49 trips per unit during the morning peak hour, 0.63 trips per unit during the evening peak hour, and 6.90 trips per unit during each weekday. A comparison of the ITE trip rates and the trip rates based on localized data is provided in the following table.

Table 4: Trip Rate Comparison

Data	Morning Trip Rate	Evening Trip Rate	Weekday Trip Rate
ITE	0.74 trips/unit	0.99 trips/unit	9.44 trips/unit
Local Data	0.49 trips/unit	0.63 trips/unit	6.90 trips/unit

Since the localized data shows lower trip rates during all analysis periods, it can be expected that the proposed subdivision will yield site trips at a similar rate. Although this lower trip generation rate was not used for analysis, it should be noted that the trip generation based on ITE rates represents a conservative, worst-case analysis.

¹ Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.

Trip Distribution

The directional distribution of site trips to and from the proposed development was calculated based on travel patterns of trips to and from the existing neighborhood that is served by Melissa Avenue. In addition, the locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections.

The following trip distribution was estimated and used for analysis:

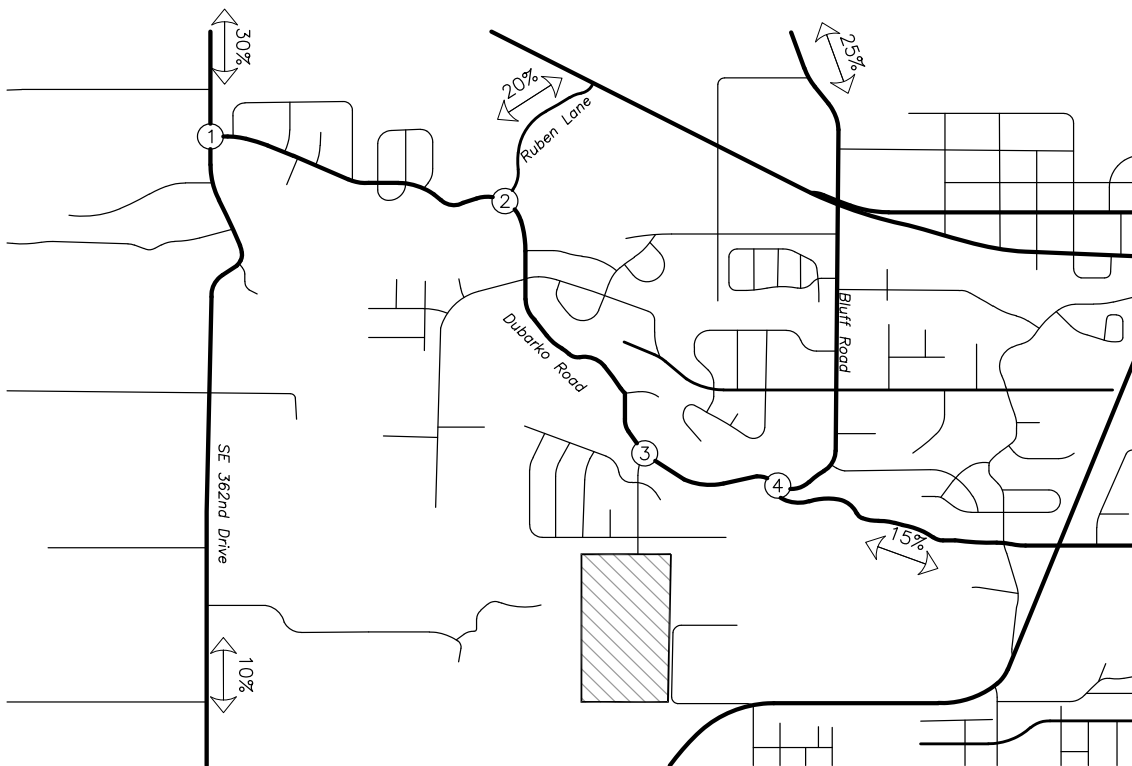
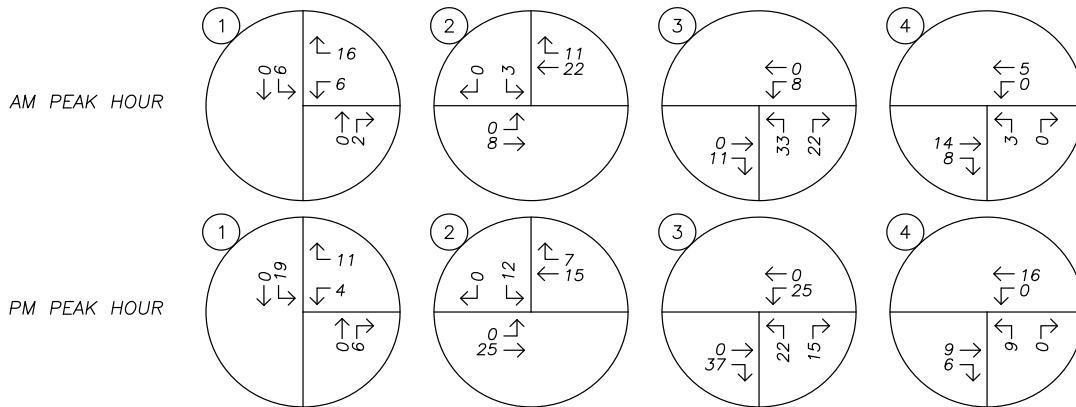
- Approximately 30 percent of site trips will travel to/from the north along SE 362nd Drive;
- Approximately 25 percent of site trips will travel to/from the north along Bluff Road;
- Approximately 20 percent of site trips will travel to/from the north on Ruben Lane;
- Approximately 15 percent of site trips will travel to/from the east along Dubarko Road; and
- Approximately 10 percent of site trips will travel to/from the south along SE 362nd Drive.

Figure 2 on page 7 shows the distribution and assignment of site trips for the proposed development.

LEGEND

XX% PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	19	55	74
PM	62	37	99



SITE TRIP DISTRIBUTION & ASSIGNMENT
 Proposed Development Plan – Site Trips
 AM & PM Peak Hours



no scale

FIGURE 2

PAGE 7



Traffic Volumes

Existing Conditions

Traffic counts were conducted at the intersection of Melissa Avenue at Dubarko Road on Thursday, April 25th, 2019 from 7:00 AM to 9:00 AM, and from 4:00 PM to 6:00 PM. Traffic counts were conducted at all other study intersections on Wednesday, May 22nd, 2019 from 4:00 PM to 6:00 PM, and on Thursday, May 23rd, 2019 from 7:00 AM to 9:00 AM. Each intersection's respective morning and evening peak hours were used for analysis.

Background Conditions

In order to calculate the future traffic volumes on local streets, an exponential growth rate of two percent per year for an assumed period of three years was applied to the measured existing traffic volumes to approximate year 2022 background conditions.

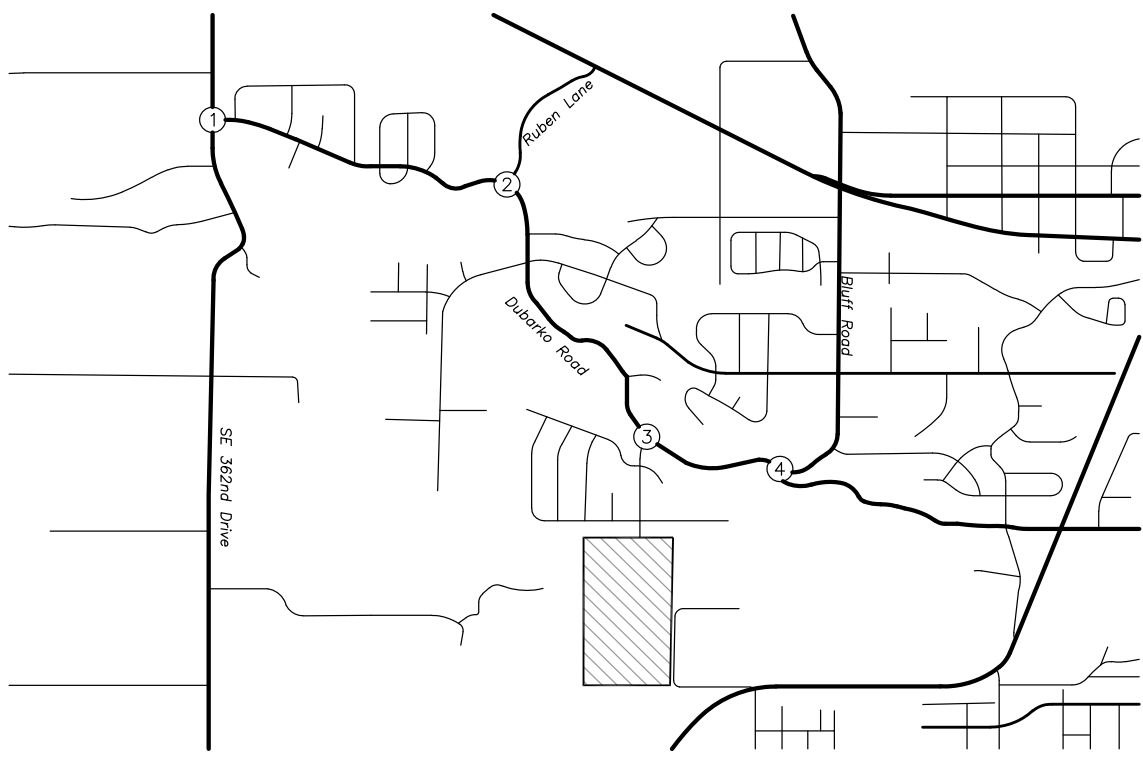
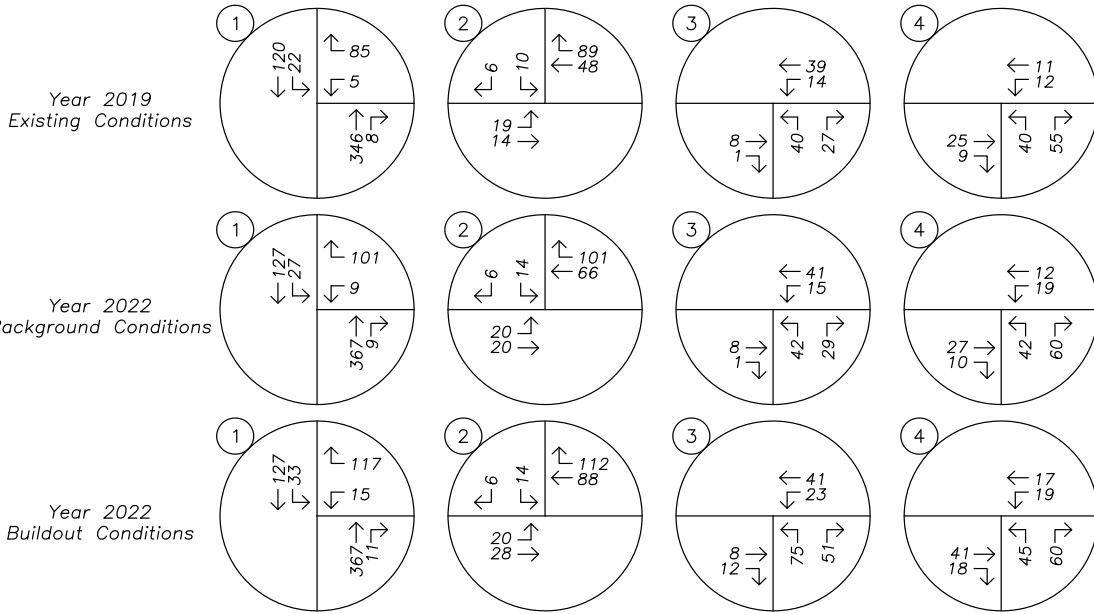
In-Process Trips

In-process trips associated with previously approved developments were added to the background volumes in order to represent future traffic volumes at the study intersections prior to the approval of the subject development. Trips associated with the approved 138-unit Sandy Heights Apartments were added to the study intersections.

Buildout Conditions

Trips to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2022 background traffic volumes to obtain the expected year 2022 buildout volumes.

Figure 3 on page 9 shows the existing, year 2022 background, and year 2022 buildout traffic volumes for the morning peak hour. Figure 4 on page 10 shows the existing, year 2022 background, and year 2022 buildout traffic volumes for the evening peak hour.

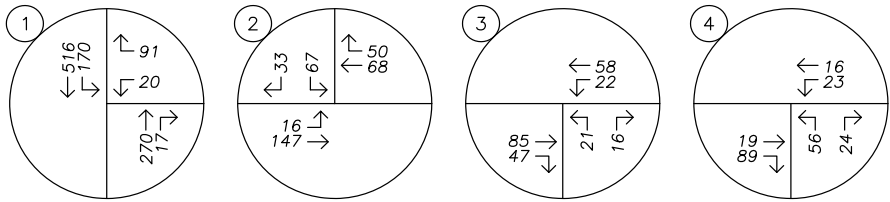


TRAFFIC VOLUMES
 All Analysis Scenarios
 AM Peak Hour

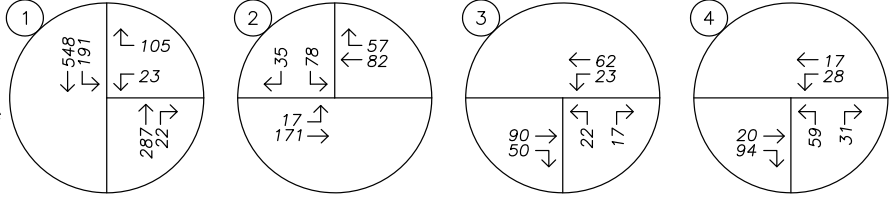
no scale

FIGURE 3
PAGE 9

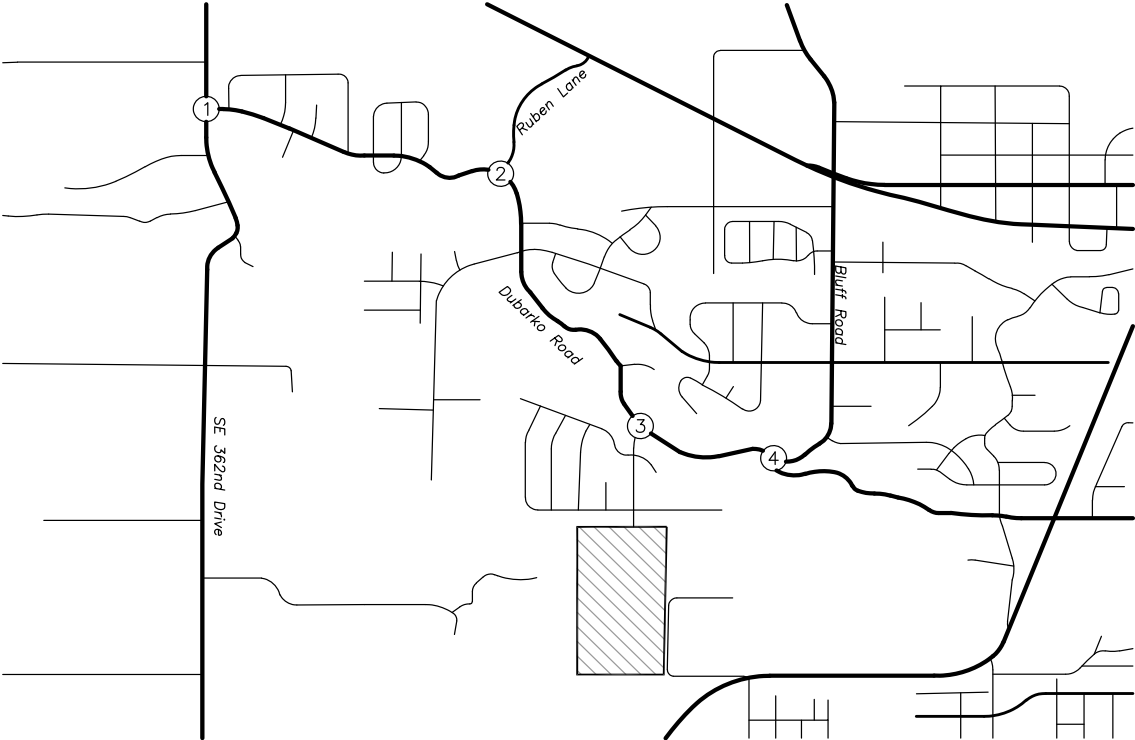
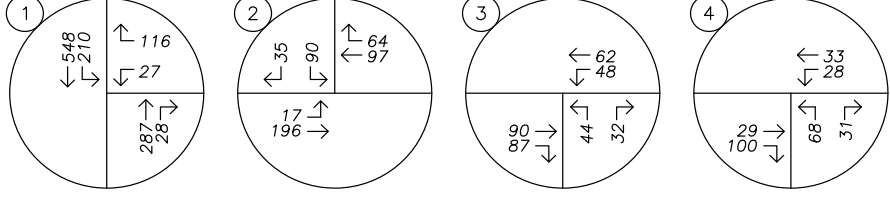
Year 2019
Existing Conditions



Year 2022
Background Conditions



Year 2022
Buildout Conditions



TRAFFIC VOLUMES
All Analysis Scenarios
PM Peak Hour



FIGURE 4
PAGE 10



Safety Analysis

Crash History Review

Using data obtained from the ODOT's Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (January 2012 to December 2016) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents approximately 10 percent of the annual average daily traffic (AADT) at the intersection. Crash rates in excess of 1.0 crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

Table 5: Crash Analysis Summary

Intersection	Crash Type		Crash Severity	Total	AADT	Crash Rate
	Turn	Sideswipe	PDO			
Dubarko Road at SE 362 nd Drive	0	1	1	1	10,840	0.05
Dubarko Road at Melissa Avenue	2	0	2	2	2,490	0.44

The calculated crash rates at the intersections of Dubarko Road at SE 362nd Drive and at Melissa Avenue are not indicative of safety deficiencies or design flaws. No mitigation is recommended.

No reported crashes were found at the intersections of Dubarko Road at Ruben Lane and Dubarko Road at Bluff Road during the analysis period. Accordingly, no safety concerns were identified at these study intersections.

Warrant Analysis

Traffic Signal Warrants

Traffic signal warrants were examined for all study intersections based on the methodologies in the *Manual on Uniform Traffic Control Devices*² (MUTCD). Warrant 1, *Eight Hour Vehicular Volumes*, was used from the MUTCD. Warrants were evaluated based on the common assumption that traffic counted during the evening peak hour represents ten percent of the AADT. Volumes were used for the year 2022 buildout conditions. Traffic signal warrants were not met at any of the study intersections due to low major and minor street

² Federal Highway Administration (FTA), America Traffic Safety Services Association (ATSSA), Institute of Transportation Engineers (ITE), American Association of State Highway and Transportation Officials (AASHTO), *Manual on Uniform Traffic Control Devices for Streets and Highways* (MUTCD), 2009 Edition, 2010.



traffic volumes. Detailed information on the traffic signal warrant analysis is included in the attached appendix.

Left-Turn Lane Warrants

Left-turn lane warrants were examined for the westbound left-turn lane at the intersection of Melissa Avenue at Dubarko Road. A left-turn refuge is primarily a safety consideration for the major-street approach, removing left-turning vehicles from the through traffic stream. Warrants were based on the methodology outlined in the National Cooperative Highway Research Program (NCHRP) Report Number 457³. These turn-lane warrants were evaluated based on the number of left-turning vehicles, the number of advancing and opposing vehicles, and the roadway travel speed.

Left-turn lanes were not warranted during any of the analysis scenarios. No new left-turn lanes are recommended.

³ Bonneson, James A. and Michael D. Fontaine, *NCHRP Report 457: An Engineering Study Guide for Evaluating Intersection Improvements*, Transportation Research Board, 2001.



Operational Analysis

Delay & Capacity Analysis

A capacity and delay analysis was conducted for the study intersection per the unsignalized intersection analysis methodologies in the *Highway Capacity Manual*⁴ (HCM). Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

The City of Sandy’s Transportation System Plan states that both signalized and unsignalized intersections are required to operate at LOS D or better.

Based on the results of the operational analysis, shown in Table 6, the study intersections are currently operating acceptably and are projected to continue operating acceptably through the 2022 buildout year of the site. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 6: Intersection Capacity Analysis Summary

	Morning Peak Hour			Evening Peak Hour		
	Delay	LOS	V/C	Delay	LOS	V/C
SE 362nd Drive at Dubarko Road						
Existing Conditions	12	B	0.17	16	C	0.27
Year 2022 Background Conditions	13	B	0.22	18	C	0.34
Year 2022 Buildout Conditions	13	B	0.27	21	C	0.40
Ruben Lane at Dubarko Road						
Existing Conditions	9	A	0.02	11	B	0.15
Year 2022 Background Conditions	10	A	0.03	11	B	0.18
Year 2022 Buildout Conditions	10	A	0.03	12	B	0.21
Dubarko Road at Melissa Avenue						
Existing Conditions	9	A	0.09	10	A	0.05
Year 2022 Background Conditions	9	A	0.09	10	A	0.06
Year 2022 Buildout Conditions	10	A	0.17	11	B	0.12
Dubarko Road at Bluff Road						
Existing Conditions	8	A	0.15	8	A	0.13
Year 2022 Background Conditions	8	A	0.16	8	A	0.14
Year 2022 Buildout Conditions	8	A	0.17	8	A	0.16

⁴ Transportation Research Board, *Highway Capacity Manual, 6th Edition, 2016.*

Conclusions

Based on a review of the most recent five years of crash history, no significant safety issues or trends are evident at the study intersections.

Due to insufficient major and minor street volumes, traffic signal warrants were not met at the study intersections under all analysis scenarios.

Left-turn lane warrants were analyzed for the intersection of Melissa Avenue at Dubarko Road and not estimated to be met under any analysis scenario.

All study intersections, including the intersection of Melissa Avenue and Dubarko Road are currently operating within the City's performance standards and are projected to continue operating acceptably through year 2022, with or without the addition of site trips from the proposed development.

1e

Appendix



TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Variable Value: 100

AM PEAK HOUR

Trip Rate: 0.74

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	19	55	74

PM PEAK HOUR

Trip Rate: 0.99

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	62	37	99

WEEKDAY

Trip Rate: 9.44

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	472	472	944

SATURDAY

Trip Rate: 9.54

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	477	477	954

Source: Trip Generation Manual, Tenth Edition

All Traffic Data Services, Inc.
alltrafficdata.net

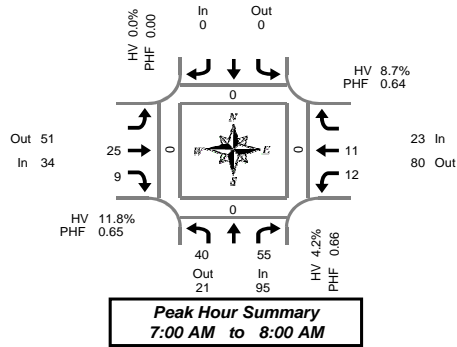
Melissa Ave S-O Dubarko Rd

Start Time	25-Apr-19 Thu	NB	SB	Total					
12:00 AM		2	5	7					
01:00		1	1	2					
02:00		1	0	1					
03:00		7	2	9					
04:00		20	1	21					
05:00		30	5	35					
06:00		57	11	68					
07:00		67	15	82					
08:00		37	17	54					
09:00		30	17	47					
10:00		25	18	43					
11:00		23	22	45					
12:00 PM		35	25	60					
01:00		16	24	40					
02:00		29	46	75					
03:00		35	58	93					
04:00		44	64	108					
05:00		30	54	84					
06:00		32	74	106					
07:00		28	40	68					
08:00		16	36	52					
09:00		9	30	39					
10:00		5	12	17					
11:00		0	4	4					
Total		579	581	1160					
Percent		49.9%	50.1%						
AM Peak	-	07:00	11:00	-	-	-	-	-	07:00
Vol.	-	67	22	-	-	-	-	-	82
PM Peak	-	16:00	18:00	-	-	-	-	-	16:00
Vol.	-	44	74	-	-	-	-	-	108
Grand Total		579	581						1160
Percent		49.9%	50.1%						
ADT		ADT 11,874	AADT 11,874						

Total Vehicle Summary



Clay Carney
(503) 833-2740



Dubarko Rd & Bluff Rd

Thursday, May 23, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	3	4	0			0	2	1	0	0	1	0	11	0	0	0	0
7:05 AM	1	8	0			0	2	0	0	1	0	0	12	0	0	0	0
7:10 AM	3	7	0			0	5	1	0	2	1	0	19	0	0	0	0
7:15 AM	8	6	0			0	4	0	0	0	1	0	19	0	0	0	0
7:20 AM	2	7	0			0	0	0	0	1	1	0	11	0	0	0	0
7:25 AM	6	7	0			0	3	2	0	4	2	0	24	0	0	0	0
7:30 AM	3	2	0			0	6	1	0	1	0	0	13	0	0	0	0
7:35 AM	1	3	0			0	1	0	0	1	1	0	7	0	0	0	0
7:40 AM	3	1	0			0	1	1	0	1	1	0	8	0	0	0	0
7:45 AM	1	2	0			0	0	2	0	1	0	0	6	0	0	0	0
7:50 AM	5	6	0			0	1	0	0	0	3	0	15	0	0	0	0
7:55 AM	4	2	0			0	0	1	0	0	0	0	7	0	0	0	0
8:00 AM	2	1	0			0	1	2	0	2	0	0	8	0	0	0	0
8:05 AM	2	1	0			0	0	1	0	0	0	0	4	0	0	0	0
8:10 AM	1	5	0			0	2	0	0	1	2	0	11	0	0	0	0
8:15 AM	2	7	0			0	0	0	0	2	1	0	12	0	0	0	0
8:20 AM	3	2	0			0	3	0	0	1	0	0	9	0	0	0	0
8:25 AM	3	5	0			0	1	3	0	1	0	0	13	0	0	0	0
8:30 AM	0	5	0			0	0	2	0	1	0	0	8	0	0	0	0
8:35 AM	3	0	0			0	0	2	0	0	0	0	5	0	0	0	0
8:40 AM	3	2	0			0	0	2	0	0	1	0	8	0	0	0	0
8:45 AM	1	1	0			0	1	1	0	3	1	0	8	0	0	0	0
8:50 AM	0	1	0			0	0	1	0	1	0	0	3	0	0	0	0
8:55 AM	1	0	0			0	0	2	0	0	0	0	3	0	0	0	0
Total Survey	61	85	0			0	33	25	0	24	16	0	244	0	0	0	0

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	7	19	0			0	9	2	0	3	2	0	42	0	0	0	0
7:15 AM	16	20	0			0	7	2	0	5	4	0	54	0	0	0	0
7:30 AM	7	6	0			0	8	2	0	3	2	0	28	0	0	0	0
7:45 AM	10	10	0			0	1	3	0	1	3	0	28	0	0	0	0
8:00 AM	5	7	0			0	3	3	0	3	2	0	23	0	0	0	0
8:15 AM	8	14	0			0	4	3	0	4	1	0	34	0	0	0	0
8:30 AM	6	7	0			0	0	6	0	1	1	0	21	0	0	0	0
8:45 AM	2	2	0			0	1	4	0	4	1	0	14	0	0	0	0
Total Survey	61	85	0			0	33	25	0	24	16	0	244	0	0	0	0

Peak Hour Summary

7:00 AM to 8:00 AM

By Approach	Northbound Dubarko Rd				Southbound Dubarko Rd				Eastbound Bluff Rd				Westbound Bluff Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	95	21	116	0	0	0	0	0	34	51	85	0	23	80	103	0	0	0	0	0	
%HV	4.2%				0.0%				11.8%				8.7%				6.6%				
PHF	0.66				0.00				0.65				0.64				0.70				

By Movement	Northbound Dubarko Rd				Southbound Dubarko Rd				Eastbound Bluff Rd				Westbound Bluff Rd				Total
	L	R	Total	Bikes			Total	Bikes	T	R	Total	Bikes	L	T	Total	Bikes	
Volume	40	55	95	0	NA	NA	NA	0.0%	NA	25	9	34	12	11	23	152	
%HV	2.5%	NA	5.5%	4.2%	NA	NA	NA	0.0%	NA	12.0%	11.1%	11.8%	8.3%	9.1%	NA	8.7%	6.6%
PHF	0.63	0.65	0.66				0.00		0.57	0.75	0.65		0.50	0.69	0.64	0.70	

Rolling Hour Summary

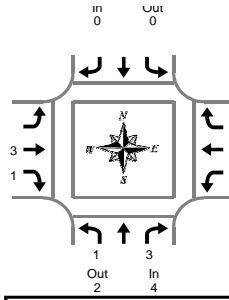
7:00 AM to 9:00 AM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	40	55	0			0	25	9	0	12	11	0	152	0	0	0	0
7:15 AM	38	43	0			0	19	10	0	12	11	0	133	0	0	0	0
7:30 AM	30	37	0			0	16	11	0	11	8	0	113	0	0	0	0
7:45 AM	29	38	0			0	8	15	0	9	7	0	106	0	0	0	0
8:00 AM	21	30	0			0	8	16	0	12	5	0	92	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Dubarko Rd & Bluff Rd

Thursday, May 23, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	0	0	0			0	0	0	0	0	1	0	1
7:05 AM	0	1	1			0	0	0	0	1	0	0	1
7:10 AM	0	0	0			0	1	0	1	0	0	0	0
7:15 AM	1	0	1			0	1	0	1	0	0	0	2
7:20 AM	0	0	0			0	0	0	0	0	0	0	0
7:25 AM	0	0	0			0	0	0	0	0	0	0	0
7:30 AM	0	0	0			0	1	0	1	0	0	0	1
7:35 AM	0	1	1			0	0	0	0	0	0	0	1
7:40 AM	0	0	0			0	0	1	1	0	0	0	1
7:45 AM	0	0	0			0	0	0	0	0	0	0	0
7:50 AM	0	1	1			0	0	0	0	0	0	0	1
7:55 AM	0	0	0			0	0	0	0	0	0	0	0
8:00 AM	0	0	0			0	0	0	0	0	0	0	0
8:05 AM	0	0	0			0	0	0	0	0	0	0	0
8:10 AM	0	1	1			0	0	0	0	0	0	0	1
8:15 AM	1	0	1			0	0	0	0	0	0	0	1
8:20 AM	0	0	0			0	1	0	1	0	0	0	1
8:25 AM	0	1	1			0	0	0	0	0	0	0	1
8:30 AM	0	1	1			0	0	0	0	0	0	0	1
8:35 AM	0	0	0			0	0	0	0	0	0	0	0
8:40 AM	0	0	0			0	0	0	0	0	0	0	0
8:45 AM	0	0	0			0	0	0	0	0	0	0	0
8:50 AM	0	0	0			0	0	0	0	0	0	0	0
8:55 AM	0	0	0			0	0	0	0	0	0	0	0
Total Survey	2	6	8			0	4	1	5	1	1	2	15

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	0	1	1			0	1	0	1	1	1	0	2
7:15 AM	1	0	1			0	1	0	1	0	0	0	2
7:30 AM	0	1	1			0	1	1	2	0	0	0	3
7:45 AM	0	1	1			0	0	0	0	0	0	0	1
8:00 AM	0	1	1			0	0	0	0	0	0	0	1
8:15 AM	1	1	2			0	1	0	1	0	0	0	3
8:30 AM	0	1	1			0	0	0	0	0	0	0	1
8:45 AM	0	0	0			0	0	0	0	0	0	0	0
Total Survey	2	6	8			0	4	1	5	1	1	2	15

Heavy Vehicle Peak Hour Summary 7:00 AM to 8:00 AM

By Approach	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	2	6	0	0	0	4	2	6	2	6	8	10
PHF	0.50			0.00			0.50			0.25			0.50

By Movement	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	1	3	4			0	3	1	4	1	1	2	10
PHF	0.25	0.75	0.50			0.00	0.38	0.25	0.50	0.25	0.25	0.25	0.50

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	1	3	4			0	3	1	4	1	1	2	10
7:15 AM	1	3	4			0	2	1	3	0	0	0	7
7:30 AM	1	4	5			0	2	1	3	0	0	0	8
7:45 AM	1	4	5			0	1	0	1	0	0	0	6
8:00 AM	1	3	4			0	1	0	1	0	0	0	5

Peak Hour Summary



Clay Carney
(503) 833-2740

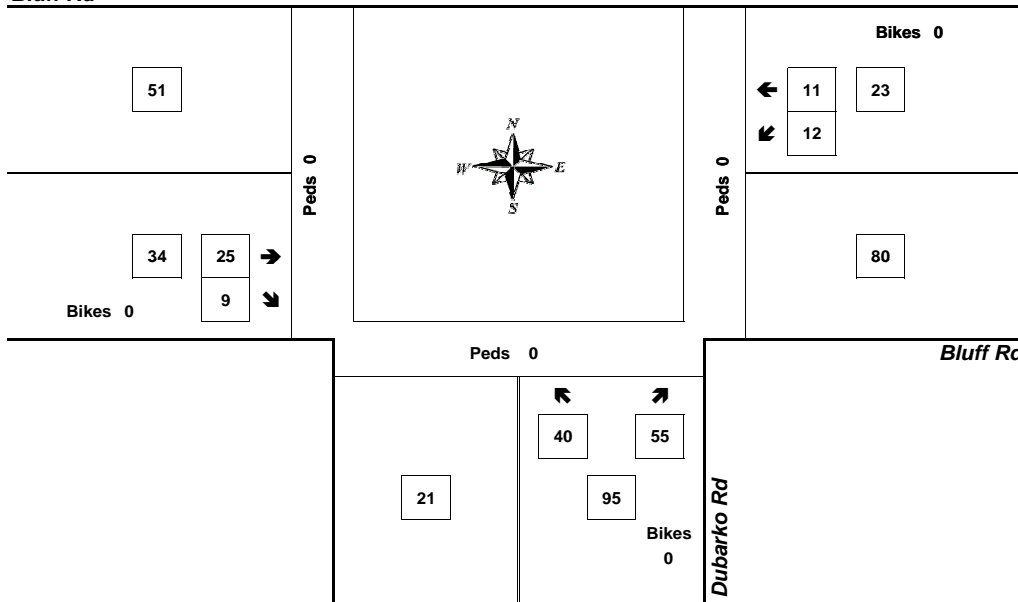
Dubarko Rd & Bluff Rd

7:00 AM to 8:00 AM
Thursday, May 23, 2019

Bikes
0

Bluff Rd

Peds 0



Approach	PHF	HV%	Volume
EB	0.65	11.8%	34
WB	0.64	8.7%	23
NB	0.66	4.2%	95
SB	0.00	0.0%	0
Intersection	0.70	6.6%	152

Count Period: 7:00 AM to 9:00 AM

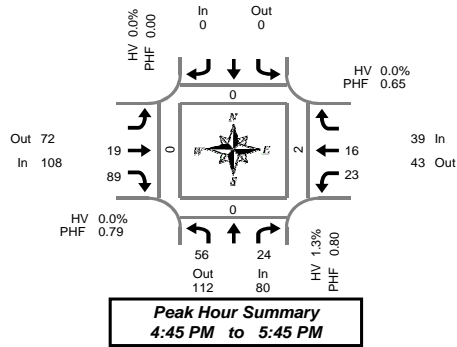
Total Vehicle Summary



Clay Carney
(503) 833-2740

Dubarko Rd & Bluff Rd

Wednesday, May 22, 2019
4:00 PM to 6:00 PM



5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	4	0	0			0			0	4	7	0	5	0	0	0	0
4:05 PM	2	0	0			0			0	1	4	0	3	3	0	0	0
4:10 PM	7	1	0			0			0	1	4	0	2	0	0	0	0
4:15 PM	5	1	0			0			0	2	7	0	1	1	0	0	0
4:20 PM	3	0	0			0			0	0	5	0	2	3	0	0	0
4:25 PM	7	2	0			0			0	3	8	0	3	0	0	0	0
4:30 PM	6	2	0			0			0	0	6	0	1	0	0	0	0
4:35 PM	2	2	0			0			0	3	9	0	1	0	0	0	0
4:40 PM	7	3	0			0			0	2	7	0	1	0	0	0	0
4:45 PM	7	0	0			0			0	0	10	0	3	0	0	0	0
4:50 PM	8	4	0			0			0	2	5	0	1	0	0	0	0
4:55 PM	3	1	0			0			0	0	6	0	0	1	0	0	0
5:00 PM	4	3	0			0			0	1	5	0	3	2	0	0	0
5:05 PM	6	1	1			0			0	3	8	0	1	2	0	0	1
5:10 PM	1	0	0			0			0	4	9	0	1	0	0	0	0
5:15 PM	3	0	0			0			0	1	9	0	1	2	0	0	0
5:20 PM	7	4	0			0			0	3	6	0	1	3	0	0	0
5:25 PM	1	2	0			0			0	0	8	0	3	1	0	0	0
5:30 PM	5	2	0			0			0	1	6	0	5	1	0	0	0
5:35 PM	3	0	0			0			0	2	9	0	2	3	0	0	0
5:40 PM	8	7	0			0			0	2	8	0	2	1	0	0	1
5:45 PM	7	1	0			0			0	0	3	0	0	1	0	0	0
5:50 PM	6	2	0			0			0	1	6	0	1	0	0	0	0
5:55 PM	3	0	0			0			0	1	2	0	1	2	0	0	0
Total Survey	115	38	1			0			0	37	157	0	44	26	0	0	2

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	13	1	0			0			0	6	15	0	10	3	0	0	0
4:15 PM	15	3	0			0			0	5	20	0	6	4	0	0	0
4:30 PM	15	7	0			0			0	5	22	0	3	0	0	0	0
4:45 PM	18	5	0			0			0	2	21	0	4	1	0	0	0
5:00 PM	11	4	1			0			0	8	22	0	5	4	0	0	1
5:15 PM	11	6	0			0			0	4	23	0	5	6	0	0	0
5:30 PM	16	9	0			0			0	5	23	0	9	5	0	0	1
5:45 PM	16	3	0			0			0	2	11	0	2	3	0	0	0
Total Survey	115	38	1			0			0	37	157	0	44	26	0	0	2

Peak Hour Summary

4:45 PM to 5:45 PM

By Approach	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	80	112	192	1	0	0	0	0	108	72	180	0	39	43	82	0	227
%HV	1.3%			0.0%			0.0%			0.0%			0.4%				
PHF	0.80			0.00			0.79			0.65			0.85				

By Movement	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	56	24	80			0	19	89	108	23	16	39	227
%HV	1.8%	NA	0.0%	1.3%	NA	NA	0.0%	NA	0.0%	0.0%	0.0%	NA	0.4%
PHF	0.78	0.67	0.80			0.00	0.59	0.86	0.79	0.58	0.67	0.65	0.85

Rolling Hour Summary

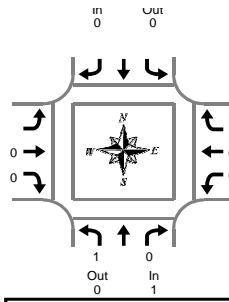
4:00 PM to 6:00 PM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	61	16	0			0			0	18	78	0	23	8	0	0	0
4:15 PM	59	19	1			0			0	20	85	0	18	9	0	0	1
4:30 PM	55	22	1			0			0	19	88	0	17	11	0	0	0
4:45 PM	56	24	1			0			0	19	89	0	23	16	0	0	2
5:00 PM	54	22	1			0			0	19	79	0	21	18	0	0	2

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Out 1
In 0

Peak Hour Summary
4:45 PM to 5:45 PM

Dubarko Rd & Bluff Rd

Wednesday, May 22, 2019
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd		Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total
	L	R	Total		Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0		0	2	0	2	0	0	0	2
4:05 PM	0	0	0		0	0	0	0	0	0	0	0
4:10 PM	0	0	0		0	0	0	0	0	0	0	0
4:15 PM	0	0	0		0	0	0	0	1	0	1	1
4:20 PM	0	0	0		0	0	0	0	0	0	0	0
4:25 PM	0	0	0		0	0	0	0	0	0	0	0
4:30 PM	0	0	0		0	0	0	0	1	0	1	1
4:35 PM	0	0	0		0	0	0	0	0	0	0	0
4:40 PM	0	0	0		0	0	0	0	0	0	0	0
4:45 PM	0	0	0		0	0	0	0	0	0	0	0
4:50 PM	0	0	0		0	0	0	0	0	0	0	0
4:55 PM	0	0	0		0	0	0	0	0	0	0	0
5:00 PM	0	0	0		0	0	0	0	0	0	0	0
5:05 PM	0	0	0		0	0	0	0	0	0	0	0
5:10 PM	0	0	0		0	0	0	0	0	0	0	0
5:15 PM	0	0	0		0	0	0	0	0	0	0	0
5:20 PM	0	0	0		0	0	0	0	0	0	0	0
5:25 PM	0	0	0		0	0	0	0	0	0	0	0
5:30 PM	0	0	0		0	0	0	0	0	0	0	0
5:35 PM	0	0	0		0	0	0	0	0	0	0	0
5:40 PM	1	0	1		0	0	0	0	0	0	0	1
5:45 PM	0	0	0		0	0	0	0	0	0	0	0
5:50 PM	0	0	0		0	0	0	0	0	0	0	0
5:55 PM	0	0	0		0	0	0	0	0	0	0	0
Total Survey	1	0	1		0	2	0	2	2	0	2	5

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd		Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total
	L	R	Total		Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0		0	2	0	2	0	0	0	2
4:15 PM	0	0	0		0	0	0	0	1	0	1	1
4:30 PM	0	0	0		0	0	0	0	1	0	1	1
4:45 PM	0	0	0		0	0	0	0	0	0	0	0
5:00 PM	0	0	0		0	0	0	0	0	0	0	0
5:15 PM	0	0	0		0	0	0	0	0	0	0	0
5:30 PM	1	0	1		0	0	0	0	0	0	0	1
5:45 PM	0	0	0		0	0	0	0	0	0	0	0
Total Survey	1	0	1		0	2	0	2	2	0	2	5

Heavy Vehicle Peak Hour Summary 4:45 PM to 5:45 PM

By Approach	Northbound Dubarko Rd			Southbound Dubarko Rd			Eastbound Bluff Rd			Westbound Bluff Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	0	1	0	0	0	0	1	1	0	0	0	1
PHF	0.25			0.00			0.00			0.00			0.25

By Movement	Northbound Dubarko Rd			Southbound Dubarko Rd		Eastbound Bluff Rd			Westbound Bluff Rd			Total
	L	R	Total		Total	T	R	Total	L	T	Total	
Volume	1	0	1		0	0	0	0	0	0	0	1
PHF	0.25		0.25		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Dubarko Rd			Southbound Dubarko Rd		Eastbound Bluff Rd			Westbound Bluff Rd			Interval Total
	L	R	Total		Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0		0	2	0	2	2	0	2	4
4:15 PM	0	0	0		0	0	0	0	2	0	2	2
4:30 PM	0	0	0		0	0	0	0	1	0	1	1
4:45 PM	1	0	1		0	0	0	0	0	0	0	1
5:00 PM	1	0	1		0	0	0	0	0	0	0	1

Peak Hour Summary



Clay Carney
(503) 833-2740

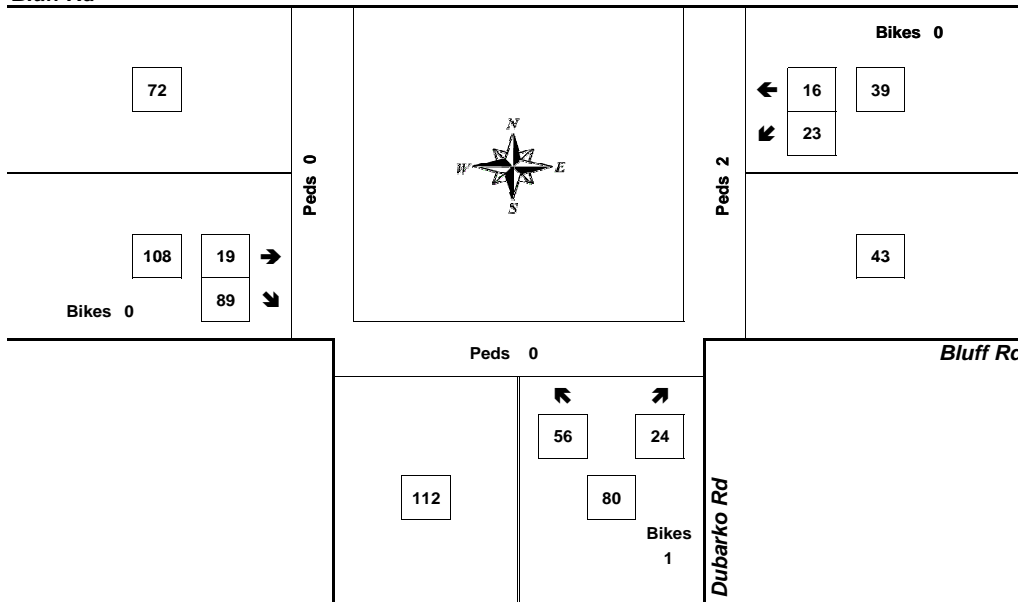
Dubarko Rd & Bluff Rd

4:45 PM to 5:45 PM
Wednesday, May 22, 2019

Bikes
0

Bluff Rd

Peds 0



Approach	PHF	HV%	Volume
EB	0.79	0.0%	108
WB	0.65	0.0%	39
NB	0.80	1.3%	80
SB	0.00	0.0%	0
Intersection	0.85	0.4%	227

Count Period: 4:00 PM to 6:00 PM

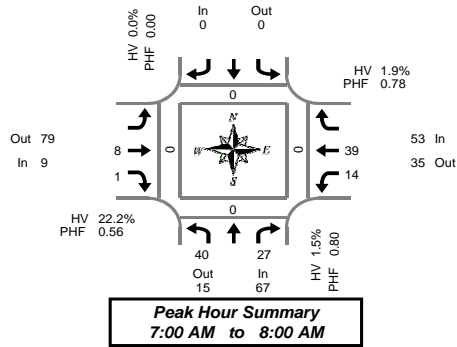
Total Vehicle Summary



Clay Carney
(603) 833-2740

Melissa Ave & Dubarko Rd

Thursday, April 25, 2019
7:00 AM to 9:00 AM



5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	5	2	0			0	0	0	0	2	3	0	12	0	0	0	0
7:05 AM	4	6	0			0	0	0	0	2	4	0	16	0	0	0	0
7:10 AM	2	2	0			0	1	0	0	1	2	0	8	0	0	0	0
7:15 AM	4	1	0			0	0	0	0	0	4	0	9	0	0	0	0
7:20 AM	2	3	0			0	2	0	0	2	3	0	12	0	0	0	0
7:25 AM	2	3	0			0	0	1	0	0	6	0	12	0	0	0	0
7:30 AM	6	4	0			0	1	0	0	3	3	0	17	0	0	0	0
7:35 AM	0	0	0			0	1	0	0	1	3	0	5	0	0	0	0
7:40 AM	2	1	0			0	1	0	0	0	4	0	8	0	0	0	0
7:45 AM	4	1	0			0	0	0	0	0	2	0	7	0	0	0	0
7:50 AM	6	1	0			0	1	0	0	2	3	0	13	0	0	0	0
7:55 AM	3	3	0			0	1	0	0	1	2	0	10	0	0	0	0
8:00 AM	3	0	0			0	0	0	0	0	1	0	4	0	0	0	0
8:05 AM	4	0	0			0	1	0	0	1	2	0	8	0	0	0	0
8:10 AM	3	1	0			0	0	1	0	0	2	0	7	0	0	0	0
8:15 AM	1	0	0			0	1	1	0	1	3	0	7	0	0	0	0
8:20 AM	1	3	0			0	3	1	0	1	4	0	13	0	0	0	0
8:25 AM	3	2	0			0	2	0	0	1	4	0	12	0	0	0	0
8:30 AM	3	3	0			0	5	0	0	0	2	0	13	0	0	0	0
8:35 AM	2	1	0			0	4	1	0	0	1	0	9	0	0	0	0
8:40 AM	0	2	0			0	4	1	0	1	3	0	11	0	0	0	0
8:45 AM	0	2	0			0	5	1	0	0	5	0	13	0	0	0	0
8:50 AM	0	1	0			0	2	2	0	1	2	0	8	0	0	0	0
8:55 AM	2	0	0			0	0	0	0	3	3	0	8	0	0	0	0
Total Survey	62	42	0			0	35	9	0	23	71	0	242	0	0	0	0

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	11	10	0			0	1	0	0	5	9	0	36	0	0	0	0
7:15 AM	8	7	0			0	2	1	0	2	13	0	33	0	0	0	0
7:30 AM	8	5	0			0	3	0	0	4	10	0	30	0	0	0	0
7:45 AM	13	5	0			0	2	0	0	3	7	0	30	0	0	0	0
8:00 AM	10	1	0			0	1	1	0	1	5	0	19	0	0	0	0
8:15 AM	5	5	0			0	6	2	0	3	11	0	32	0	0	0	0
8:30 AM	5	6	0			0	13	2	0	1	6	0	33	0	0	0	0
8:45 AM	2	3	0			0	7	3	0	4	10	0	29	0	0	0	0
Total Survey	62	42	0			0	35	9	0	23	71	0	242	0	0	0	0

Peak Hour Summary

7:00 AM to 8:00 AM

By Approach	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	67	15	82	0	0	0	0	0	9	79	88	0	53	35	88	0	129
%HV	1.5%				0.0%				22.2%				1.9%			3.1%	
PHF	0.80				0.00				0.56				0.78			0.79	

By Movement	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total				
	L	R	Total			Total	T	R	Total	L	T	Total					
Volume	40	27	67			0	8	1	9	14	39	53	129				
%HV	2.5%	NA	0.0%	1.5%	NA	NA	NA	0.0%	NA	12.5%	#####	22.2%	7.1%	0.0%	NA	1.9%	3.1%
PHF	0.77		0.68	0.80		0.00	0.67	0.25	0.56	0.70	0.75	0.78	0.79				

Rolling Hour Summary

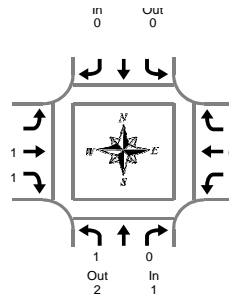
7:00 AM to 9:00 AM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	40	27	0			0	8	1	0	14	39	0	129	0	0	0	0
7:15 AM	39	18	0			0	8	2	0	10	35	0	112	0	0	0	0
7:30 AM	36	16	0			0	12	3	0	11	33	0	111	0	0	0	0
7:45 AM	33	17	0			0	22	5	0	8	29	0	114	0	0	0	0
8:00 AM	22	15	0			0	27	8	0	9	32	0	113	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Out 1
In 2

Peak Hour Summary
7:00 AM to 8:00 AM

Melissa Ave & Dubarko Rd

Thursday, April 25, 2019
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave		Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	L	R	Total		Total	T	R	Total	L	T	Total	
7:00 AM	1	0	1		0	0	0	0	1	0	1	2
7:05 AM	0	0	0		0	0	0	0	0	0	0	0
7:10 AM	0	0	0		0	0	0	0	0	0	0	0
7:15 AM	0	0	0		0	0	0	0	0	0	0	0
7:20 AM	0	0	0		0	0	0	0	0	0	0	0
7:25 AM	0	0	0		0	0	1	1	0	0	0	1
7:30 AM	0	0	0		0	0	0	0	0	0	0	0
7:35 AM	0	0	0		0	0	0	0	0	0	0	0
7:40 AM	0	0	0		0	0	0	0	0	0	0	0
7:45 AM	0	0	0		0	0	0	0	0	0	0	0
7:50 AM	0	0	0		0	0	0	0	0	0	0	0
7:55 AM	0	0	0		0	0	1	1	0	0	0	1
8:00 AM	0	0	0		0	0	0	0	0	0	0	0
8:05 AM	0	0	0		0	0	0	0	0	0	0	0
8:10 AM	1	0	1		0	0	0	0	0	0	0	1
8:15 AM	1	0	1		0	0	0	0	1	0	1	2
8:20 AM	0	1	1		0	0	0	0	0	0	0	1
8:25 AM	0	0	0		0	0	0	0	0	0	0	0
8:30 AM	0	1	1		0	0	0	0	0	0	0	1
8:35 AM	0	0	0		0	0	0	0	0	0	0	0
8:40 AM	0	0	0		0	0	0	0	0	0	0	0
8:45 AM	0	0	0		0	0	0	0	0	0	0	0
8:50 AM	0	0	0		0	0	0	0	0	0	0	0
8:55 AM	0	0	0		0	0	0	0	0	0	0	0
Total Survey	3	2	5		0	1	1	2	2	0	2	9

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave		Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	L	R	Total		Total	T	R	Total	L	T	Total	
7:00 AM	1	0	1		0	0	0	0	1	0	1	2
7:15 AM	0	0	0		0	0	1	1	0	0	0	1
7:30 AM	0	0	0		0	0	0	0	0	0	0	0
7:45 AM	0	0	0		0	1	0	1	0	0	0	1
8:00 AM	1	0	1		0	0	0	0	0	0	0	1
8:15 AM	1	1	2		0	0	0	0	1	0	1	3
8:30 AM	0	1	1		0	0	0	0	0	0	0	1
8:45 AM	0	0	0		0	0	0	0	0	0	0	0
Total Survey	3	2	5		0	1	1	2	2	0	2	9

Heavy Vehicle Peak Hour Summary 7:00 AM to 8:00 AM

By Approach	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	1	2	3	0	0	0	2	1	3	1	1	2	4
PHF	0.25			0.00			0.50			0.25			0.50

By Movement	Northbound Melissa Ave			Southbound Melissa Ave		Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	L	R	Total		Total	T	R	Total	L	T	Total	
Volume	1	0	1		0	1	1	2	1	0	1	4
PHF	0.25		0.25		0.00	0.25	0.25	0.50	0.25	0.00	0.25	0.50

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave		Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	L	R	Total		Total	T	R	Total	L	T	Total	
7:00 AM	1	0	1		0	1	1	2	1	0	1	4
7:15 AM	1	0	1		0	1	1	2	0	0	0	3
7:30 AM	2	1	3		0	1	0	1	1	0	1	5
7:45 AM	2	2	4		0	1	0	1	1	0	1	6
8:00 AM	2	2	4		0	0	0	0	1	0	1	5

Peak Hour Summary



Clay Carney
(503) 833-2740

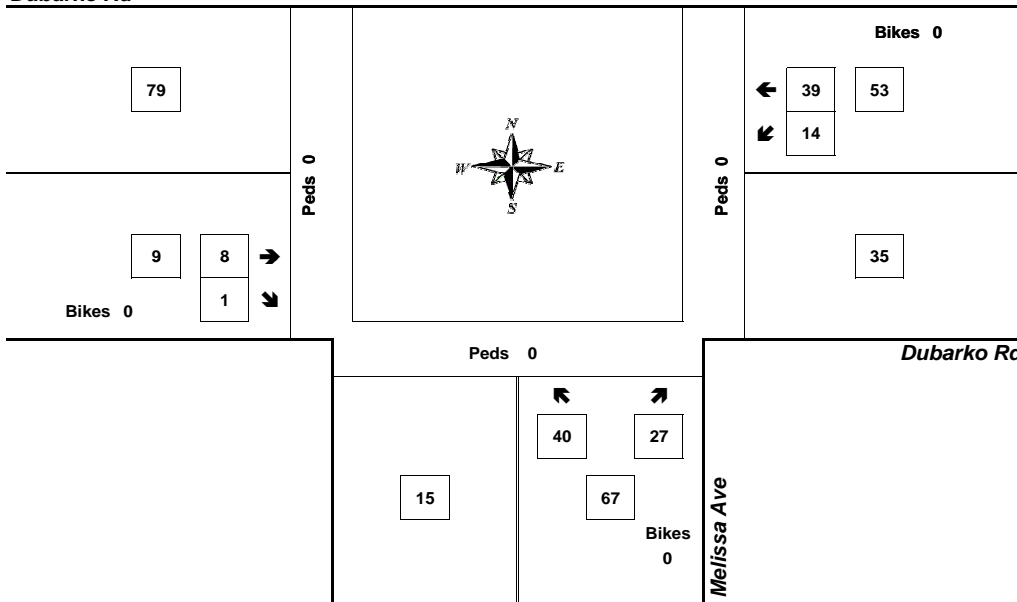
Melissa Ave & Dubarko Rd

7:00 AM to 8:00 AM
Thursday, April 25, 2019

Bikes
0

Dubarko Rd

Peds 0



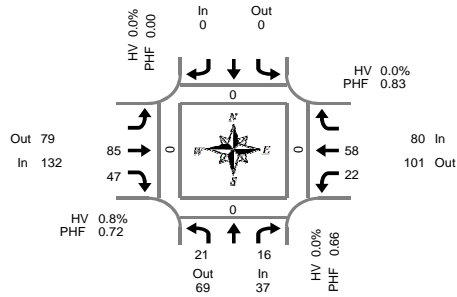
Approach	PHF	HV%	Volume
EB	0.56	22.2%	9
WB	0.78	1.9%	53
NB	0.80	1.5%	67
SB	0.00	0.0%	0
Intersection	0.79	3.1%	129

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(603) 833-2740



Peak Hour Summary
4:40 PM to 5:40 PM

Melissa Ave & Dubarko Rd

Thursday, April 25, 2019
4:00 PM to 6:00 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	1	3	0			0	12	4	0	3	6	0	29	0	0	0	0
4:05 PM	0	2	0			0	4	2	0	0	3	0	11	0	0	0	0
4:10 PM	4	2	0			0	3	2	0	0	7	0	18	0	0	0	1
4:15 PM	2	2	0			0	5	4	0	2	2	0	17	0	1	0	0
4:20 PM	2	2	0			0	7	1	0	0	1	0	13	0	0	0	0
4:25 PM	3	2	0			0	5	2	0	0	5	0	17	0	0	0	0
4:30 PM	0	1	0			0	7	4	0	2	4	0	18	0	0	0	0
4:35 PM	1	0	0			0	8	2	0	3	5	0	19	0	0	0	0
4:40 PM	1	2	0			0	5	7	0	5	6	0	26	0	0	0	0
4:45 PM	5	2	0			0	4	5	0	0	4	0	20	0	0	0	0
4:50 PM	2	1	0			0	7	8	0	3	6	0	27	0	0	0	0
4:55 PM	2	2	0			0	7	5	0	0	5	0	21	0	0	0	0
5:00 PM	0	0	0			0	14	5	0	1	1	0	21	0	0	0	0
5:05 PM	0	0	0			0	9	1	0	0	5	0	16	0	0	0	0
5:10 PM	2	1	0			0	5	3	0	3	7	0	21	0	0	0	0
5:15 PM	0	1	0			0	4	1	0	1	3	0	10	0	0	0	0
5:20 PM	3	3	0			0	10	4	0	3	4	0	27	0	0	0	0
5:25 PM	1	1	0			0	4	2	0	1	5	0	14	0	0	0	0
5:30 PM	2	1	0			0	7	3	0	3	7	0	23	0	0	0	0
5:35 PM	2	2	0			0	9	3	0	2	5	0	23	0	0	0	0
5:40 PM	3	0	0			0	3	6	0	0	1	0	13	0	0	0	0
5:45 PM	1	1	0			0	8	2	0	4	5	0	21	0	0	0	1
5:50 PM	3	0	0			0	5	2	0	0	5	0	15	0	0	0	0
5:55 PM	2	0	0			0	9	4	0	0	2	0	17	0	0	0	1
Total Survey	43	31	0			0	161	82	0	36	104	0	457	0	1	0	3

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	5	7	0			0	19	8	0	3	16	0	58	0	0	0	0
4:15 PM	7	6	0			0	17	7	0	2	8	0	47	0	1	0	0
4:30 PM	2	3	0			0	20	13	0	10	15	0	63	0	0	0	0
4:45 PM	9	5	0			0	18	18	0	3	15	0	68	0	0	0	0
5:00 PM	3	1	0			0	28	9	0	4	13	0	58	0	0	0	0
5:15 PM	4	5	0			0	18	7	0	5	12	0	51	0	0	0	0
5:30 PM	7	3	0			0	19	12	0	5	13	0	59	0	0	0	0
5:45 PM	6	1	0			0	22	8	0	4	12	0	53	0	0	0	2
Total Survey	43	31	0			0	161	82	0	36	104	0	457	0	1	0	3

Peak Hour Summary

4:40 PM to 5:40 PM

By Approach	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	37	69	106	0	0	0	0	132	79	211	0	80	101	181	0	249	
%HV	0.0%				0.0%				0.8%				0.0%				0.4%
PHF	0.66				0.00				0.72				0.83				0.85

By Movement	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total				
	L	R	Total			Total	T	R	Total	L	T	Total					
Volume	21	16	37			0	85	47	132	22	58	80	249				
%HV	0.0%	NA	0.0%	0.0%	NA	NA	NA	0.0%	NA	1.2%	0.0%	0.8%	0.0%	0.0%	NA	0.0%	0.4%
PHF	0.58		0.80	0.66		0.00	0.71	0.59	0.72	0.69	0.85	0.83	0.85				

Rolling Hour Summary

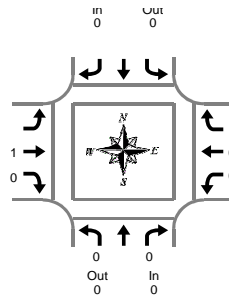
4:00 PM to 6:00 PM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	23	21	0			0	74	46	0	18	54	0	236	0	1	0	1
4:15 PM	21	15	0			0	83	47	0	19	51	0	236	0	1	0	0
4:30 PM	18	14	0			0	84	47	0	22	55	0	240	0	0	0	0
4:45 PM	23	14	0			0	83	46	0	17	53	0	236	0	0	0	0
5:00 PM	20	10	0			0	87	36	0	18	50	0	221	0	0	0	2

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
4:40 PM to 5:40 PM

Melissa Ave & Dubarko Rd

Thursday, April 25, 2019
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave		Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	L	R	Total		Total	T	R	Total	L	T	Total	
4:00 PM	0	0	0		0	0	1	1	0	1	1	2
4:05 PM	0	0	0		0	0	0	0	0	1	1	1
4:10 PM	1	0	1		0	0	0	0	0	0	0	1
4:15 PM	0	0	0		0	0	0	0	0	0	0	0
4:20 PM	0	0	0		0	0	0	0	0	0	0	0
4:25 PM	0	0	0		0	0	0	0	0	0	0	0
4:30 PM	0	0	0		0	0	0	0	0	0	0	0
4:35 PM	0	0	0		0	0	0	0	0	0	0	0
4:40 PM	0	0	0		0	0	0	0	0	0	0	0
4:45 PM	0	0	0		0	0	0	0	0	0	0	0
4:50 PM	0	0	0		0	0	0	0	0	0	0	0
4:55 PM	0	0	0		0	0	0	0	0	0	0	0
5:00 PM	0	0	0		0	0	0	0	0	0	0	0
5:05 PM	0	0	0		0	0	0	0	0	0	0	0
5:10 PM	0	0	0		0	0	0	0	0	0	0	0
5:15 PM	0	0	0		0	1	0	1	0	0	0	1
5:20 PM	0	0	0		0	0	0	0	0	0	0	0
5:25 PM	0	0	0		0	0	0	0	0	0	0	0
5:30 PM	0	0	0		0	0	0	0	0	0	0	0
5:35 PM	0	0	0		0	0	0	0	0	0	0	0
5:40 PM	0	0	0		0	0	0	0	0	0	0	0
5:45 PM	0	0	0		0	0	0	0	0	0	0	0
5:50 PM	0	0	0		0	0	0	0	0	0	0	0
5:55 PM	0	0	0		0	0	0	0	0	0	0	0
Total Survey	1	0	1		0	1	1	2	0	2	2	5

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave		Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	L	R	Total		Total	T	R	Total	L	T	Total	
4:00 PM	1	0	1		0	0	1	1	0	2	2	4
4:15 PM	0	0	0		0	0	0	0	0	0	0	0
4:30 PM	0	0	0		0	0	0	0	0	0	0	0
4:45 PM	0	0	0		0	0	0	0	0	0	0	0
5:00 PM	0	0	0		0	0	0	0	0	0	0	0
5:15 PM	0	0	0		0	1	0	1	0	0	0	1
5:30 PM	0	0	0		0	0	0	0	0	0	0	0
5:45 PM	0	0	0		0	0	0	0	0	0	0	0
Total Survey	1	0	1		0	1	1	2	0	2	2	5

Heavy Vehicle Peak Hour Summary

4:40 PM to 5:40 PM

By Approach	Northbound Melissa Ave			Southbound Melissa Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	1	0	1	0	1	1	1
PHF	0.00			0.00			0.25			0.00			0.25

By Movement	Northbound Melissa Ave			Southbound Melissa Ave		Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	L	R	Total		Total	T	R	Total	L	T	Total	
Volume	0	0	0		0	1	0	1	0	0	0	1
PHF	0.00	0.00	0.00		0.00	0.25	0.00	0.25	0.00	0.00	0.00	0.25

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Melissa Ave			Southbound Melissa Ave		Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	L	R	Total		Total	T	R	Total	L	T	Total	
4:00 PM	1	0	1		0	0	1	1	0	2	2	4
4:15 PM	0	0	0		0	0	0	0	0	0	0	0
4:30 PM	0	0	0		0	1	0	1	0	0	0	1
4:45 PM	0	0	0		0	1	0	1	0	0	0	1
5:00 PM	0	0	0		0	1	0	1	0	0	0	1

Peak Hour Summary



Clay Carney
(503) 833-2740

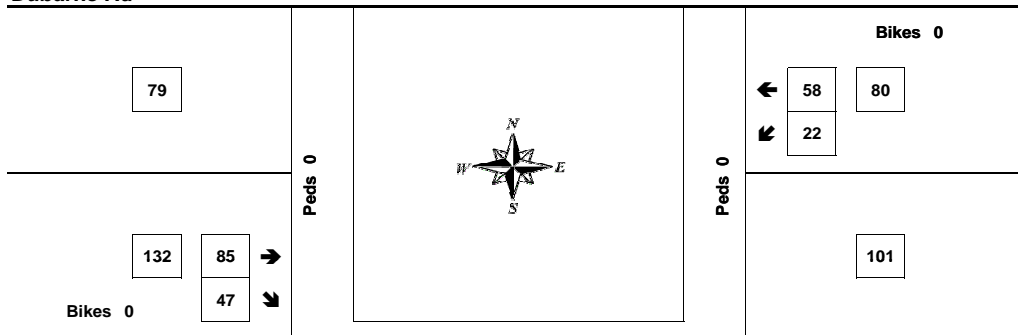
Melissa Ave & Dubarko Rd

4:40 PM to 5:40 PM
Thursday, April 25, 2019

Bikes
0

Dubarko Rd

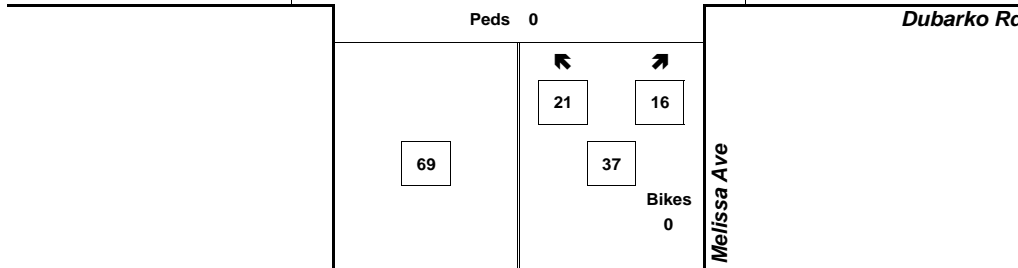
Peds 0



Bikes 0

Bikes 0

Peds 0



Dubarko Rd

Bikes
0

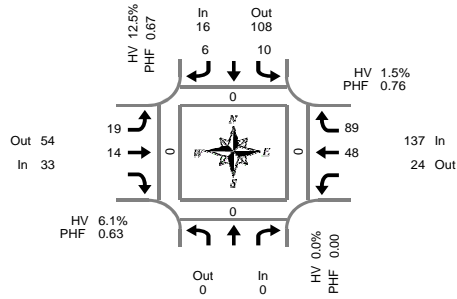
Approach	PHF	HV%	Volume
EB	0.72	0.8%	132
WB	0.83	0.0%	80
NB	0.66	0.0%	37
SB	0.00	0.0%	0
Intersection	0.85	0.4%	249

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Ruben Ln & Dubarko Rd

Thursday, May 23, 2019
7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Ruben Ln				Southbound Ruben Ln				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	L	T	Total	Bikes	T	R	Total	Bikes		North	South	East	West
7:00 AM																					
7:05 AM																					
7:10 AM																					
7:15 AM																					
7:20 AM																					
7:25 AM																					
7:30 AM																					
7:35 AM																					
7:40 AM																					
7:45 AM																					
7:50 AM																					
7:55 AM																					
8:00 AM																					
8:05 AM																					
8:10 AM																					
8:15 AM																					
8:20 AM																					
8:25 AM																					
8:30 AM																					
8:35 AM																					
8:40 AM																					
8:45 AM																					
8:50 AM																					
8:55 AM																					
Total Survey																					

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Ruben Ln				Southbound Ruben Ln				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	L	T	Total	Bikes	T	R	Total	Bikes		North	South	East	West
7:00 AM																					
7:15 AM																					
7:30 AM																					
7:45 AM																					
8:00 AM																					
8:15 AM																					
8:30 AM																					
8:45 AM																					
Total Survey																					

Peak Hour Summary

7:05 AM to 8:05 AM

By Approach	Northbound Ruben Ln				Southbound Ruben Ln				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	16	108	124	0	33	54	87	0	137	24	161	0	186	0	0	0	0
%HV							12.5%														
PHF							0.67														

By Movement	Northbound Ruben Ln				Southbound Ruben Ln				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total
	Total	L	R	Total	L	T	Total	Bikes	Total	T	R	Total	Bikes				
Volume	0	10	6	16	19	14	33	0	33	48	89	137	0				
%HV	NA	20.0%	NA	12.5%	0.0%	14.3%	NA	6.1%	NA	2.1%	1.1%	1.5%	3.2%				
PHF	0.00	0.50	0.30	0.67	0.59	0.70	0.63	0.63	0.75	0.77	0.76	0.89					

Rolling Hour Summary

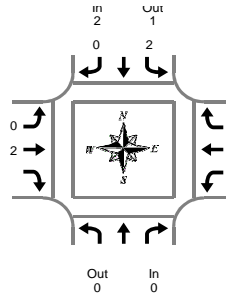
7:00 AM to 9:00 AM

Interval Start Time	Northbound Ruben Ln				Southbound Ruben Ln				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	L	T	Total	Bikes	T	R	Total	Bikes		North	South	East	West
7:00 AM																					
7:15 AM																					
7:30 AM																					
7:45 AM																					
8:00 AM																					

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Ruben Ln & Dubarko Rd

Thursday, May 23, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Ruben Ln			Southbound Ruben Ln			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
7:05 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
7:10 AM	0	1	1	0	1	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
7:20 AM	0	1	1	0	1	1	0	0	0	0	0	0	1
7:25 AM	0	0	0	0	0	0	0	1	1	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:35 AM	0	0	0	0	0	0	0	1	1	0	0	0	1
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
8:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:55 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
Total Survey			0	2	0	2	0	2	2	2	4	6	10

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Ruben Ln			Southbound Ruben Ln			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
7:00 AM	0	1	1	0	1	1	0	0	0	0	2	2	3
7:15 AM	0	1	1	0	1	1	0	1	1	1	0	1	3
7:30 AM	0	0	0	0	0	0	0	1	1	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	1	1	2	2
Total Survey			0	2	0	2	0	2	2	2	4	6	10

Heavy Vehicle Peak Hour Summary 7:05 AM to 8:05 AM

By Approach	Northbound Ruben Ln			Southbound Ruben Ln			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	2	1	3	2	1	3	2	4	6	6
PHF	0.00			0.25			0.25			0.25			0.50

By Movement	Northbound Ruben Ln			Southbound Ruben Ln			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
Volume			0	2	0	2	0	2	2	1	1	2	6
PHF			0.00	0.25	0.00	0.25	0.00	0.25	0.25	0.25	0.25	0.25	0.50

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound Ruben Ln			Southbound Ruben Ln			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
7:00 AM	0	2	2	0	2	2	0	2	2	1	2	3	7
7:15 AM	0	1	1	0	1	1	0	2	2	1	0	1	4
7:30 AM	0	0	0	0	0	0	0	1	1	0	1	1	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	1	2	3	3

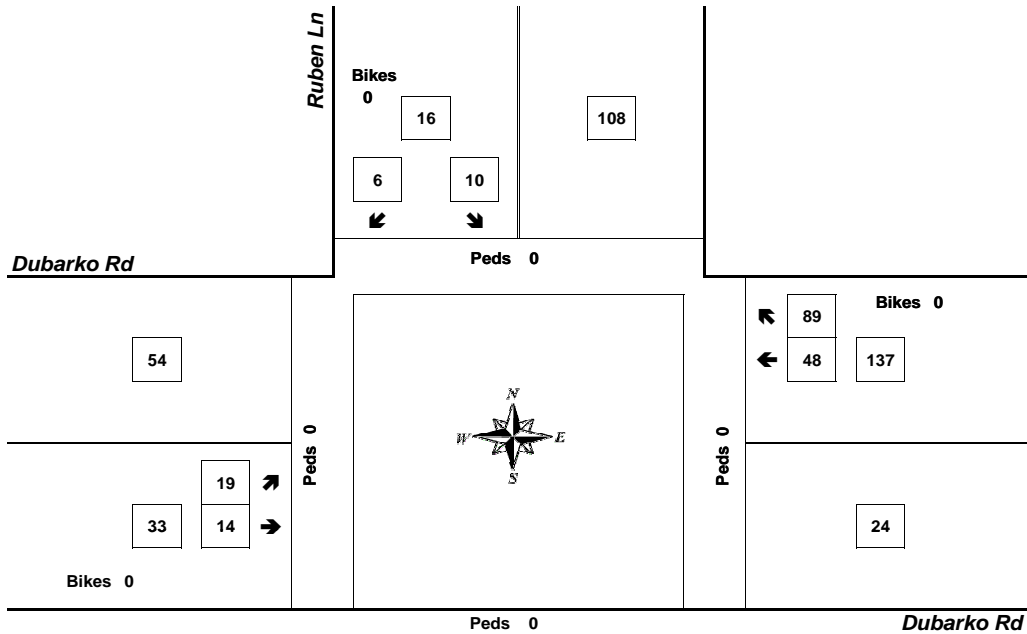
Peak Hour Summary



Clay Carney
(503) 833-2740

Ruben Ln & Dubarko Rd

7:05 AM to 8:05 AM
Thursday, May 23, 2019



Bikes
0

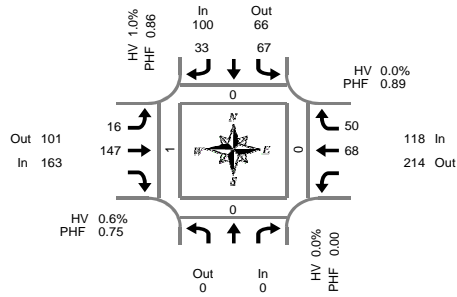
Approach	PHF	HV%	Volume
EB	0.63	6.1%	33
WB	0.76	1.5%	137
NB	0.00	0.0%	0
SB	0.67	12.5%	16
Intersection	0.89	3.2%	186

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
4:25 PM to 5:25 PM

Ruben Ln & Dubarko Rd

Wednesday, May 22, 2019
4:00 PM to 6:00 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Ruben Ln				Southbound Ruben Ln				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	L	T	Total	Bikes	T	R	Bikes	North		South	East	West	
4:00 PM																					
4:05 PM																					
4:10 PM																					
4:15 PM																					
4:20 PM																					
4:25 PM																					
4:30 PM																					
4:35 PM																					
4:40 PM																					
4:45 PM																					
4:50 PM																					
4:55 PM																					
5:00 PM																					
5:05 PM																					
5:10 PM																					
5:15 PM																					
5:20 PM																					
5:25 PM																					
5:30 PM																					
5:35 PM																					
5:40 PM																					
5:45 PM																					
5:50 PM																					
5:55 PM																					
Total Survey																					

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Ruben Ln				Southbound Ruben Ln				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	L	T	Total	Bikes	T	R	Bikes	North		South	East	West	
4:00 PM																					
4:15 PM																					
4:30 PM																					
4:45 PM																					
5:00 PM																					
5:15 PM																					
5:30 PM																					
5:45 PM																					
Total Survey																					

Peak Hour Summary

4:25 PM to 5:25 PM

By Approach	Northbound Ruben Ln				Southbound Ruben Ln				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	100	66	166	0	163	101	264	0	118	214	332	0	381	0	0	0	1
%HV	0.0%				1.0%				0.6%				0.0%				0.5%				
PHF	0.00				0.86				0.75				0.89				0.89				

By Movement	Northbound Ruben Ln				Southbound Ruben Ln				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total
	In	Out	Total	Bikes	In	Out	Total	Bikes	L	T	Total	Bikes	T	R	Total		
Volume	0	67	33	100	16	147	163	0	68	50	118	0	68	50	118		
%HV	NA	NA	NA	0.0%	0.0%	NA	3.0%	1.0%	6.3%	0.0%	NA	0.6%	NA	0.0%	0.0%	0.0%	0.5%
PHF		0.00	0.80	0.75	0.86	0.57	0.75	0.75	0.75	0.89	0.83	0.89	0.89	0.89			

Rolling Hour Summary

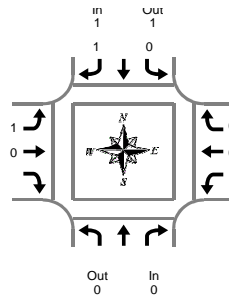
4:00 PM to 6:00 PM

Interval Start Time	Northbound Ruben Ln				Southbound Ruben Ln				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	L	T	Total	Bikes	T	R	Bikes	North		South	East	West	
4:00 PM																					
4:15 PM																					
4:30 PM																					
4:45 PM																					
5:00 PM																					

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Ruben Ln & Dubarko Rd

Wednesday, May 22, 2019
4:00 PM to 6:00 PM

Peak Hour Summary
4:25 PM to 5:25 PM

Heavy Vehicle 5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Ruben Ln			Southbound Ruben Ln			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
4:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	1
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	1	1	0	0	0	0	0	0	0	1
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:50 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	0	0	1	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	1	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	2	2	0	0	0	0	2
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	1	1	2	3	1	3	4	0	1	1	1	8

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Ruben Ln			Southbound Ruben Ln			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
4:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	1	1	1	1
5:45 PM	0	0	0	0	0	0	2	2	0	0	0	0	2
Total Survey	0	1	1	2	3	1	3	4	0	1	1	1	8

Heavy Vehicle Peak Hour Summary 4:25 PM to 5:25 PM

By Approach	Northbound Ruben Ln			Southbound Ruben Ln			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	1	1	2	1	1	2	0	0	0	2
PHF	0.00			0.25			0.25			0.00			0.50

By Movement	Northbound Ruben Ln			Southbound Ruben Ln			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
Volume	0	0	0	1	1	2	1	0	1	0	0	0	2
PHF	0.00	0.00		0.25	0.25	0.25	0.00		0.25	0.00	0.00	0.00	0.50

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound Ruben Ln			Southbound Ruben Ln			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	In	Out	Total	L	R	Total	L	T	Total	T	R	Total	
4:00 PM	0	0	0	1	1	2	3	1	0	1	0	0	4
4:15 PM	0	1	0	1	0	1	1	0	0	0	0	0	3
4:30 PM	0	0	0	1	1	2	3	1	0	1	0	0	3
4:45 PM	0	0	0	0	0	1	1	1	1	0	1	1	3
5:00 PM	0	0	0	0	0	0	0	3	3	0	1	1	4

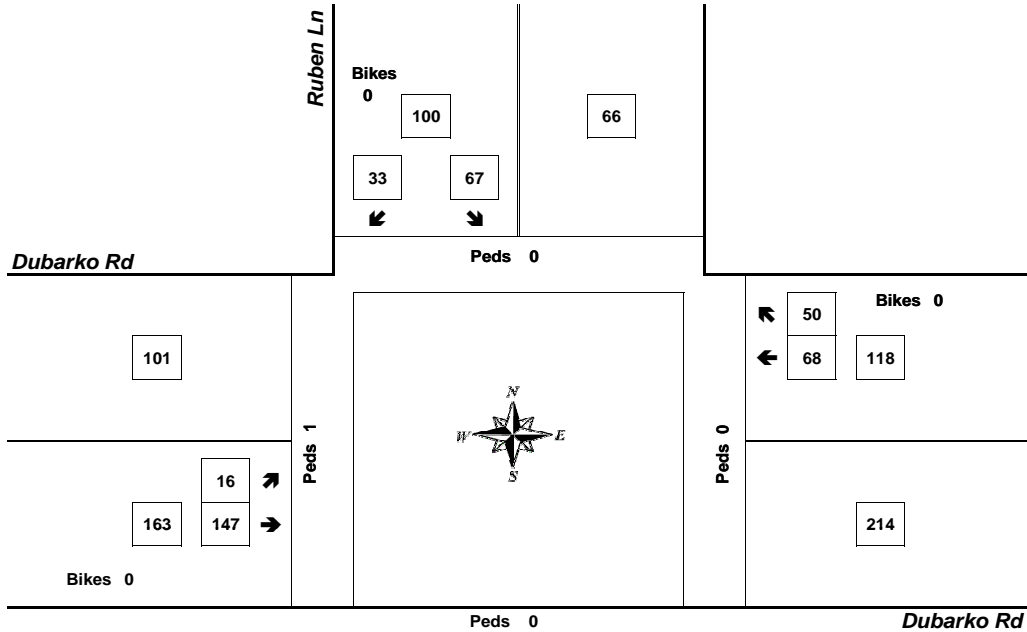
Peak Hour Summary



Clay Carney
(503) 833-2740

Ruben Ln & Dubarko Rd

4:25 PM to 5:25 PM
Wednesday, May 22, 2019



Approach	PHF	HV%	Volume
EB	0.75	0.6%	163
WB	0.89	0.0%	118
NB	0.00	0.0%	0
SB	0.86	1.0%	100
Intersection	0.89	0.5%	381

Count Period: 4:00 PM to 6:00 PM

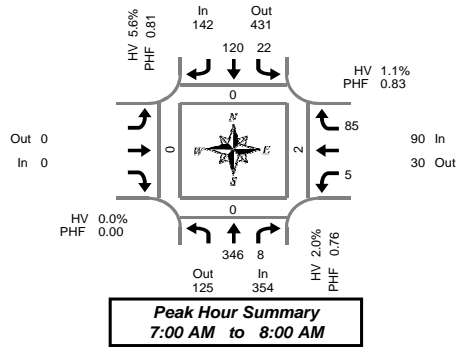
Total Vehicle Summary



Clay Carney
(603) 833-2740

SE 362nd Ave & Dubarko Rd

Thursday, May 23, 2019
7:00 AM to 9:00 AM



5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes		Bikes	L	R	Bikes	North		South	East	West	
7:00 AM	33	0	0	0	10	0		0	1	11	0	55	0	0	0	0	
7:05 AM	50	1	0	1	7	0		0	0	8	0	67	0	0	0	0	
7:10 AM	32	0	0	3	9	0		0	1	6	0	51	0	0	0	0	
7:15 AM	34	0	0	3	6	0		0	0	9	0	52	0	0	1	0	
7:20 AM	32	1	0	4	13	0		0	0	6	0	56	0	0	0	0	
7:25 AM	25	1	0	1	12	0		0	0	9	0	48	0	0	1	0	
7:30 AM	21	0	0	2	12	0		0	1	7	0	43	0	0	0	0	
7:35 AM	24	1	0	4	8	0		0	0	7	0	44	0	0	0	0	
7:40 AM	34	0	0	1	8	0		0	2	4	0	49	0	0	0	0	
7:45 AM	26	2	0	1	17	0		0	0	5	0	51	0	0	0	0	
7:50 AM	17	2	0	2	11	0		0	0	10	0	42	0	0	0	0	
7:55 AM	18	0	0	0	7	0		0	0	3	0	28	0	0	0	0	
8:00 AM	26	0	0	4	7	0		0	1	8	0	46	0	0	0	0	
8:05 AM	27	2	0	2	15	0		0	1	4	0	51	0	0	1	0	
8:10 AM	33	0	0	1	6	0		0	1	0	0	41	0	0	0	0	
8:15 AM	24	2	0	4	16	0		0	0	3	0	49	0	0	0	0	
8:20 AM	29	0	0	4	6	0		0	1	6	0	46	0	0	0	0	
8:25 AM	33	1	0	3	7	0		0	0	4	0	48	0	0	0	0	
8:30 AM	21	2	0	3	11	0		0	0	6	0	43	0	0	0	0	
8:35 AM	24	2	0	2	15	0		0	0	6	0	49	0	0	0	0	
8:40 AM	21	2	0	1	12	0		0	1	2	0	39	0	0	0	0	
8:45 AM	21	2	0	5	16	0		0	1	7	0	52	0	0	0	0	
8:50 AM	26	2	0	5	16	0		0	0	3	0	52	0	0	0	0	
8:55 AM	16	1	0	1	18	0		0	1	5	0	42	0	0	0	0	
Total Survey	647	24	0	57	265	0		0	12	139	0	1,144	0	0	3	0	

15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes		Bikes	L	R	Bikes	North		South	East	West	
7:00 AM	115	1	0	4	26	0		0	2	25	0	173	0	0	0	0	
7:15 AM	91	2	0	8	31	0		0	0	24	0	156	0	0	2	0	
7:30 AM	79	1	0	7	28	0		0	3	18	0	136	0	0	0	0	
7:45 AM	61	4	0	3	35	0		0	0	18	0	121	0	0	0	0	
8:00 AM	86	2	0	7	28	0		0	3	12	0	138	0	0	1	0	
8:15 AM	86	3	0	11	29	0		0	1	13	0	143	0	0	0	0	
8:30 AM	66	6	0	6	38	0		0	1	14	0	131	0	0	0	0	
8:45 AM	63	5	0	11	50	0		0	2	15	0	146	0	0	0	0	
Total Survey	647	24	0	57	265	0		0	12	139	0	1,144	0	0	3	0	

Peak Hour Summary 7:00 AM to 8:00 AM

By Approach	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	354	125	479	0	142	431	573	0	0	0	0	90	30	120	0	586	
%HV	2.0%				5.6%				0.0%				1.1%			2.7%	
PHF	0.76				0.81				0.00				0.83			0.85	

By Movement	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	T	R	Total	L	T	Total		Total	L	R	Total		
Volume	346	8	354	22	120	142		0	5	85	90	586	
%HV	NA	2.0%	0.0%	2.0%	13.6%	4.2%	NA	5.6%	NA	NA	NA	2.7%	
PHF	0.75	0.50	0.76	0.55	0.81	0.81		0.00	0.42	0.85	0.83	0.85	

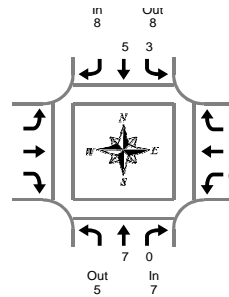
Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes		Bikes	L	R	Bikes	North		South	East	West	
7:00 AM	346	8	0	22	120	0		0	5	85	0	586	0	0	2	0	
7:15 AM	317	9	0	25	122	0		0	6	72	0	551	0	0	3	0	
7:30 AM	312	10	0	28	120	0		0	7	61	0	538	0	0	1	0	
7:45 AM	299	15	0	27	130	0		0	5	57	0	533	0	0	1	0	
8:00 AM	301	16	0	35	145	0		0	7	54	0	558	0	0	1	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Out 0
In 0

Peak Hour Summary
7:00 AM to 8:00 AM

SE 362nd Ave & Dubarko Rd

Thursday, May 23, 2019
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	T	R	Total	L	T	Total	Total	L	R	Total			
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:05 AM	2	0	2	0	0	0	0	0	0	0	0	2	
7:10 AM	1	0	1	0	0	0	0	0	0	0	0	1	
7:15 AM	1	0	1	0	0	0	0	0	0	0	0	1	
7:20 AM	1	0	1	1	0	1	1	0	0	1	1	3	
7:25 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	1	2	3	0	0	0	0	0	3	
7:35 AM	1	0	1	1	0	1	0	0	0	0	0	2	
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	1	0	1	0	2	2	0	0	0	0	0	3	
7:50 AM	0	0	0	0	1	1	0	0	0	0	0	1	
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	1	1	0	0	0	0	0	1	
8:05 AM	1	0	1	0	0	0	0	0	0	0	0	1	
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	3	1	4	0	1	1	0	0	0	0	0	5	
8:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:25 AM	0	0	0	0	2	2	0	0	1	1	1	3	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:35 AM	0	0	0	0	2	2	0	0	0	0	0	2	
8:40 AM	1	0	1	0	0	0	0	0	0	0	0	1	
8:45 AM	1	0	1	0	0	0	0	0	0	0	0	1	
8:50 AM	1	0	1	0	1	1	0	0	0	0	0	2	
8:55 AM	6	0	6	0	1	1	0	0	1	1	1	8	
Total Survey	20	1	21	3	13	16	0	0	3	3	40		

Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	T	R	Total	L	T	Total	Total	L	R	Total			
7:00 AM	3	0	3	0	0	0	0	0	0	0	0	3	
7:15 AM	2	0	2	1	0	1	0	0	1	1	1	4	
7:30 AM	1	0	1	2	2	4	0	0	0	0	0	5	
7:45 AM	1	0	1	0	3	3	0	0	0	0	0	4	
8:00 AM	1	0	1	0	1	1	0	0	0	0	0	2	
8:15 AM	3	1	4	0	3	3	0	0	1	1	1	8	
8:30 AM	1	0	1	0	2	2	0	0	0	0	0	3	
8:45 AM	8	0	8	0	2	2	0	0	1	1	1	11	
Total Survey	20	1	21	3	13	16	0	0	3	3	40		

Heavy Vehicle Peak Hour Summary

7:00 AM to 8:00 AM

By Approach	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	5	12	8	8	16	0	0	0	1	3	4	16
PHF	0.44			0.50			0.00			0.25			0.67

By Movement	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	T	R	Total	L	T	Total	Total	L	R	Total			
Volume	7	0	7	3	5	8	0	0	1	1	1	16	
PHF	0.44	0.00	0.44	0.38	0.42	0.50	0.00	0.00	0.25	0.25	0.67		

Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total
	T	R	Total	L	T	Total	Total	L	R	Total			
7:00 AM	7	0	7	3	5	8	0	0	1	1	1	16	
7:15 AM	5	0	5	3	6	9	0	0	1	1	1	15	
7:30 AM	6	1	7	2	9	11	0	0	1	1	1	19	
7:45 AM	6	1	7	0	9	9	0	0	1	1	1	17	
8:00 AM	13	1	14	0	8	8	0	0	2	2	2	24	

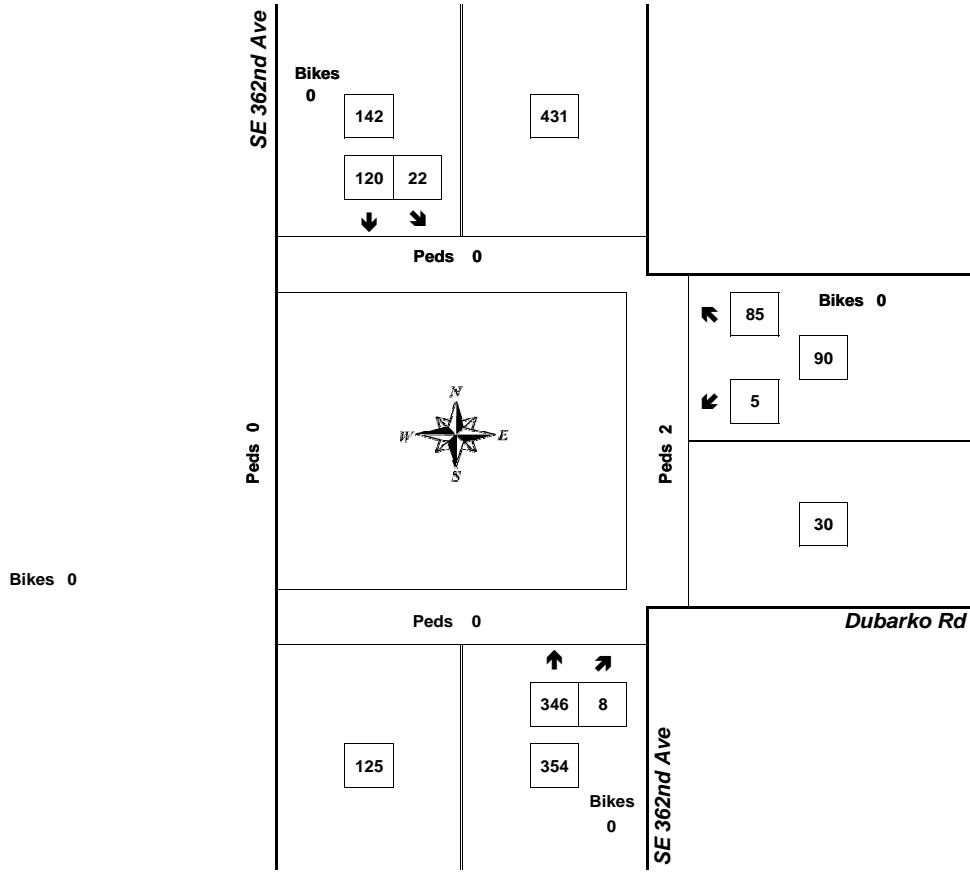
Peak Hour Summary



Clay Carney
(503) 833-2740

SE 362nd Ave & Dubarko Rd

7:00 AM to 8:00 AM
Thursday, May 23, 2019



Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.83	1.1%	90
NB	0.76	2.0%	354
SB	0.81	5.6%	142
Intersection	0.85	2.7%	586

Count Period: 7:00 AM to 9:00 AM

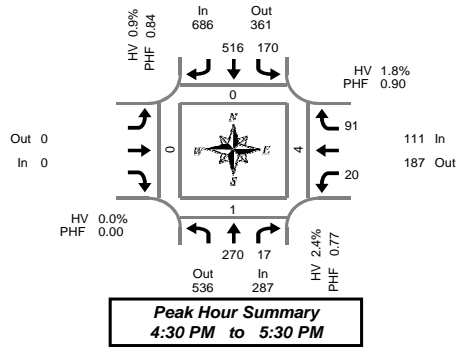
Total Vehicle Summary



Clay Carney
(603) 833-2740

SE 362nd Ave & Dubarko Rd

Wednesday, May 22, 2019
4:00 PM to 6:00 PM



5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes		Bikes	L	R	Bikes	North		South	East	West	
4:00 PM	25	0	0	11	35	0		0	1	6	0	78	1	0	3	0	
4:05 PM	21	2	0	7	36	0		0	1	5	0	72	0	0	0	0	
4:10 PM	19	2	0	8	36	0		0	1	6	0	72	0	0	0	0	
4:15 PM	26	3	0	8	32	0		0	0	4	0	73	0	0	1	0	
4:20 PM	22	1	0	14	45	0		0	3	4	0	89	0	0	0	0	
4:25 PM	21	2	0	15	34	0		0	0	5	0	77	0	0	0	0	
4:30 PM	19	2	0	18	30	0		0	1	8	0	78	0	0	2	0	
4:35 PM	27	0	0	9	42	0		0	0	9	0	87	0	0	0	0	
4:40 PM	17	3	0	12	33	0		0	2	9	0	76	0	0	0	0	
4:45 PM	28	0	0	7	46	0		0	1	6	0	88	0	0	0	0	
4:50 PM	28	2	0	14	33	0		0	3	7	0	87	0	0	0	0	
4:55 PM	30	2	0	10	51	0		0	4	3	0	100	0	0	0	0	
5:00 PM	30	1	0	15	42	0		0	3	11	0	102	0	0	0	0	
5:05 PM	21	4	0	16	45	0		0	0	7	0	93	0	0	0	0	
5:10 PM	21	1	0	20	49	0		0	2	6	0	99	0	0	0	0	
5:15 PM	16	1	0	14	60	0		0	1	7	0	99	0	0	0	0	
5:20 PM	17	1	0	19	42	0		0	2	12	0	93	0	1	0	0	
5:25 PM	16	0	0	16	43	0		0	1	6	0	82	0	0	2	0	
5:30 PM	19	0	0	16	24	0		0	2	4	0	65	0	0	0	0	
5:35 PM	16	1	0	12	33	0		0	2	7	0	71	0	0	0	0	
5:40 PM	26	0	0	9	39	0		0	1	6	0	81	0	0	0	0	
5:45 PM	18	2	0	13	36	0		0	2	5	0	76	0	0	0	0	
5:50 PM	19	2	0	17	43	0		0	1	7	0	89	0	0	0	0	
5:55 PM	17	3	0	17	29	0		0	1	7	0	74	0	0	0	0	
Total Survey	519	35	0	317	938	0		0	35	157	0	2,001	1	1	8	0	

15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes		Bikes	L	R	Bikes	North		South	East	West	
4:00 PM	65	4	0	26	107	0		0	3	17	0	222	1	0	3	0	
4:15 PM	69	6	0	37	111	0		0	3	13	0	239	0	0	1	0	
4:30 PM	63	5	0	39	105	0		0	3	26	0	241	0	0	2	0	
4:45 PM	86	4	0	31	130	0		0	8	16	0	275	0	0	0	0	
5:00 PM	72	6	0	51	136	0		0	5	24	0	294	0	0	0	0	
5:15 PM	49	2	0	49	145	0		0	4	25	0	274	0	1	2	0	
5:30 PM	61	1	0	37	96	0		0	5	17	0	217	0	0	0	0	
5:45 PM	54	7	0	47	108	0		0	4	19	0	239	0	0	0	0	
Total Survey	519	35	0	317	938	0		0	35	157	0	2,001	1	1	8	0	

Peak Hour Summary 4:30 PM to 5:30 PM

By Approach	Northbound SE 362nd Ave				Southbound SE 362nd Ave				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	287	536	823	0	686	361	1,047	0	0	0	0	0	111	187	298	0	1,084	0	1	4	0
%HV	2.4%				0.9%				0.0%				1.8%				1.4%				
PHF	0.77				0.84				0.00				0.90				0.92				

By Movement	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	T	R	Total	L	T	Total		Total	L	R	Total		
Volume	270	17	287	170	516	686		0	20	91	111	1,084	
%HV	NA	2.6%	0.0%	2.4%	1.2%	0.8%	NA	0.9%	NA	NA	NA	1.4%	
PHF	0.77	0.61	0.77	0.80	0.84	0.84		0.00	0.50	0.88	0.90	0.92	

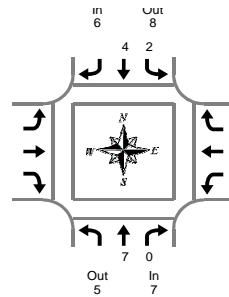
Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd			Westbound Dubarko Rd			Interval Total	Pedestrians Crosswalk			
	T	R	Bikes	L	T	Bikes		Bikes	L	R	Bikes	North		South	East	West	
4:00 PM	283	19	0	133	453	0		0	17	72	0	977	1	0	6	0	
4:15 PM	290	21	0	158	482	0		0	19	79	0	1,049	1	0	3	0	
4:30 PM	270	17	0	170	516	0		0	20	91	0	1,084	0	1	4	0	
4:45 PM	268	13	0	168	507	0		0	22	82	0	1,060	0	1	2	0	
5:00 PM	236	16	0	184	485	0		0	18	85	0	1,024	0	1	2	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Out 0
In 0

SE 362nd Ave & Dubarko Rd

Wednesday, May 22, 2019
4:00 PM to 6:00 PM

Peak Hour Summary
4:30 PM to 5:30 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd		Westbound Dubarko Rd			Interval Total
	T	R	Total	L	T	Total	Total	L	R	Total		
4:00 PM	2	0	2	0	1	1		0	0	0	0	3
4:05 PM	0	0	0	0	0	0		0	0	1	1	1
4:10 PM	2	0	2	0	1	1		0	0	0	0	3
4:15 PM	1	0	1	0	1	1		0	0	0	0	2
4:20 PM	0	0	0	0	1	1		0	0	0	0	1
4:25 PM	0	0	0	0	0	0		0	0	0	0	0
4:30 PM	0	0	0	0	3	3		0	0	0	0	3
4:35 PM	1	0	1	0	0	0		0	0	0	0	1
4:40 PM	0	0	0	1	0	1		0	1	0	1	2
4:45 PM	0	0	0	0	0	0		0	0	0	0	0
4:50 PM	0	0	0	0	0	0		0	0	0	0	0
4:55 PM	0	0	0	0	1	1		0	0	0	0	1
5:00 PM	0	0	0	0	0	0		0	0	0	0	0
5:05 PM	2	0	2	0	0	0		0	0	0	0	2
5:10 PM	0	0	0	0	0	0		0	0	0	0	0
5:15 PM	1	0	1	0	0	0		0	0	0	0	1
5:20 PM	1	0	1	0	0	0		0	0	1	1	2
5:25 PM	2	0	2	1	0	1		0	0	0	0	3
5:30 PM	1	0	1	0	1	1		0	0	0	0	2
5:35 PM	0	0	0	0	0	0		0	0	0	0	0
5:40 PM	0	0	0	0	0	0		0	0	0	0	0
5:45 PM	0	0	0	0	0	0		0	0	0	0	0
5:50 PM	0	0	0	1	0	1		0	0	0	0	1
5:55 PM	1	0	1	0	1	1		0	0	0	0	2
Total Survey	14	0	14	3	10	13		0	1	2	3	30

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd		Westbound Dubarko Rd			Interval Total
	T	R	Total	L	T	Total	Total	L	R	Total		
4:00 PM	4	0	4	0	2	2		0	0	1	1	7
4:15 PM	1	0	1	0	2	2		0	0	0	0	3
4:30 PM	1	0	1	1	3	4		0	1	0	1	6
4:45 PM	0	0	0	0	1	1		0	0	0	0	1
5:00 PM	2	0	2	0	0	0		0	0	0	0	2
5:15 PM	4	0	4	1	0	1		0	0	1	1	6
5:30 PM	1	0	1	0	1	1		0	0	0	0	2
5:45 PM	1	0	1	1	1	2		0	0	0	0	3
Total Survey	14	0	14	3	10	13		0	1	2	3	30

Heavy Vehicle Peak Hour Summary

4:30 PM to 5:30 PM

By Approach	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd		Westbound Dubarko Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total			
Volume	7	5	12	6	8	14	0	0	0	2	4	15
PHF	0.44			0.38			0.00		0.50			0.63

By Movement	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd		Westbound Dubarko Rd			Total
	T	R	Total	L	T	Total	Total	L	R	Total		
Volume	7	0	7	2	4	6	0	1	1	2	15	
PHF	0.44	0.00	0.44	0.50	0.33	0.38	0.00	0.25	0.25	0.50	0.63	

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 362nd Ave			Southbound SE 362nd Ave			Eastbound Dubarko Rd		Westbound Dubarko Rd			Interval Total
	T	R	Total	L	T	Total	Total	L	R	Total		
4:00 PM	6	0	6	1	8	9		0	1	1	2	17
4:15 PM	4	0	4	1	6	7		0	1	0	1	12
4:30 PM	7	0	7	2	4	6		0	1	1	2	15
4:45 PM	7	0	7	1	2	3		0	0	1	1	11
5:00 PM	8	0	8	2	2	4		0	0	1	1	13

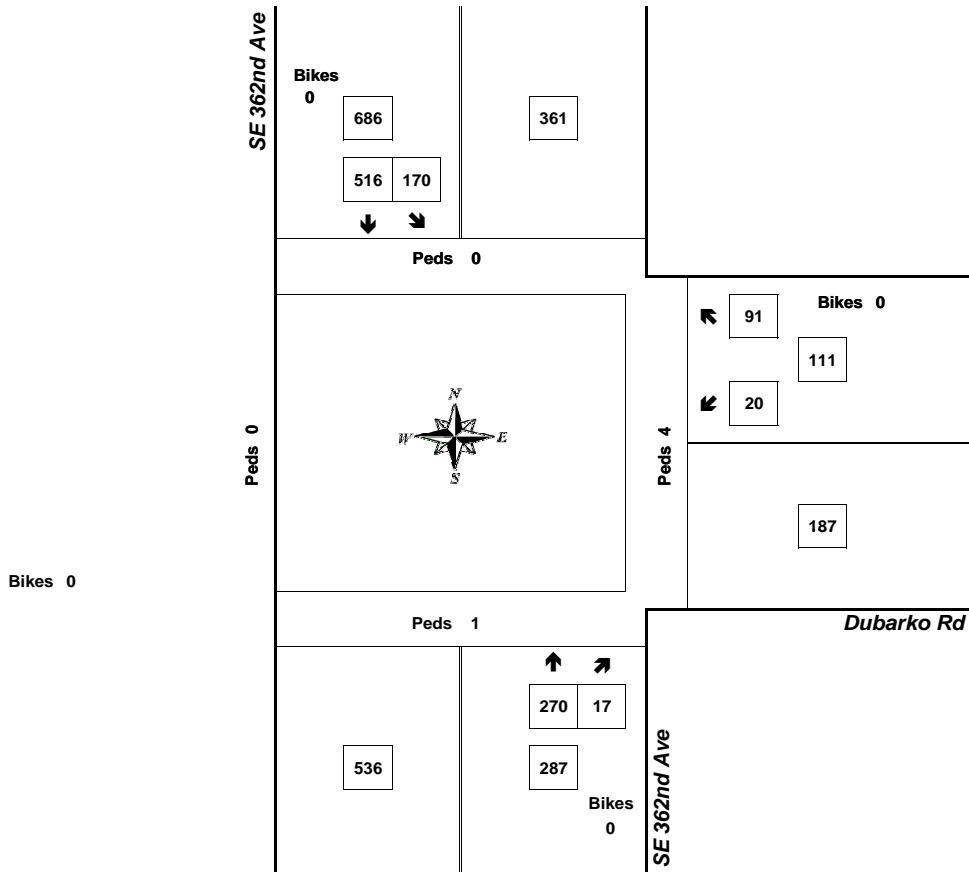
Peak Hour Summary



Clay Carney
(503) 833-2740

SE 362nd Ave & Dubarko Rd

4:30 PM to 5:30 PM
Wednesday, May 22, 2019



Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	1.8%	111
NB	0.77	2.4%	287
SB	0.84	0.9%	686
Intersection	0.92	1.4%	1,084

Count Period: 4:00 PM to 6:00 PM

CITY OF SANDY, CLACKAMAS COUNTY

362ND DR at DUBARKO RD, City of Sandy, Clackamas County, 01/01/2012 to 12/31/2016

1 - 1 of 1 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	MOVE	A	S	G	E	LICNS	PED	ACT	EVENT	CAUSE	
INVEST	E	A	U	I	C	O DAY	DIST	FIRST STREET		(MEDIAN)		RNDBT	SURF	COLL	TRLR QTY											
RD DPT	E	L	G	N	H	R TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-		LIGHT	SVRTY	OWNER	FROM										
UNLOC?	D	C	S	V	L	K LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY			V# TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR		
00737	N	N	N			02/27/2015	17	DUBARKO RD	INTER	3-LEG	N	N	UNK	S-1STOP	01 NONE 0	STRGHT									29	
NONE						FR	0	362ND DR	E		STOP SIGN	N	WET	SS-O	PRVTE	E -W								000	00	
N						12P			06	0		N	DAY	PDO	PSNGR CAR		01	DRVR	NONE	00	M	UNK	026	000	29	
N						45 23 57.42	-122 17																			
						27.9																				
															02 NONE 0	STOP										
															PRVTE	E -W									011	00
															PSNGR CAR		01	DRVR	NONE	22	M	OR-Y	000	000	00	

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CDS380
05/17/2019

CITY OF SANDY, CLACKAMAS COUNTY

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
362ND DR at DUBARKO RD, City of Sandy, Clackamas County, 01/01/2012 to 12/31/2016

Page: 2

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CDS380
05/12/2019

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
 URBAN NON-SYSTEM CRASH LISTING
 DUBARKO RD at BLUFF RD, City of Sandy, Clackamas County, 01/01/2012 to 12/31/2016

CITY OF SANDY, CLACKAMAS COUNTY

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	OFFRD	WTHR	CRASH	SPCL USE	MOVE	A	S	RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE
------	---	---	---	---	---	------	-------	-------------	---------	----------	-------	------	-------	----------	------	---	---	--------	---	---	---	---	---	---	------	------	---------------	--------	------	-------	-------	------	------	-------	------	------	-----	---	---	-------	-----	--------	---	---	---	---	---	---	-----	------	-----	-------	----------	-------	-------	-------	-------	----	------	----	----	------	-------	---	---	-----	-----	-------	-----	-------	-------

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CDS380
05/12/2019

CITY OF SANDY, CLACKAMAS COUNTY

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
DUBARKO RD at BLUFF RD, City of Sandy, Clackamas County, 01/01/2012 to 12/31/2016

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CITY OF SANDY, CLACKAMAS COUNTY

SER#	S P	D R	M J	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE	ACT	EVENT	CAUSE								
INVEST	E A	U I	C O	DAY	DIST	FIRST STREET	(MEDIAN) INT-REL	MOVE											
RD DPT	E L	G N	H R	TIME	FROM	SECOND STREET	LEGS TRAF-	OWNER											
UNLOC?	D C	S V	L K	LAT	LONG	LRS	(#LANES) CONTL	V# TYPE	TO	P# TYPE	SVRTY	E X	RES	LOC	ERROR				
00557	N N	N		02/07/2014	16	DUBARKO RD	3-LEG N	01 NONE 0	TURN-L								124	08	
NONE				FR	0	MELISSA AVE	STOP SIGN	PRVTE	SE-S								000	124	00
N				3P			06 0	PSNGR CAR		01	DRVR	NONE	59 M	OR-Y	002		017	08	
N				45 23	-122 16									OR<25					
				30.2562959	36.081048														
								02 NONE 0	STOP										
								PRVTE	S -N										
								PSNGR CAR		01	DRVR	NONE	57 F	OR-Y	000		011	00	00
														OR<25					
01045	N N	N		03/26/2015	16	DUBARKO RD	3-LEG N	01 NONE 0	STRGHT										02
NONE				TH	0	MELISSA AVE	STOP SIGN	PRVTE	NW-SE									000	00
N				8A			04 0	PSNGR CAR		01	DRVR	NONE	23 F	OR-Y	000		000	00	
N				45 23	30.26	-122 16								OR<25					
					36.08														
								02 NONE 0	TURN-L										
								PRVTE	S -NW										
								PSNGR CAR		01	DRVR	NONE	00 F	UNK	028		015	000	00
														UNK					02

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CDS380
05/12/2019

CITY OF SANDY, CLACKAMAS COUNTY

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
DUBARKO RD at MELISSA AVE, City of Sandy, Clackamas County, 01/01/2012 to 12/31/2016

Page: 2

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CDS380
05/12/2019

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
DUBARKO RD at RUBEN LN, City of Sandy, Clackamas County, 01/01/2012 to 12/31/2016

CITY OF SANDY, CLACKAMAS COUNTY

SER#	S	D	M	CLASS	CITY STREET	INT-TYPE	SPCL USE	ACT	EVENT	CAUSE																			
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE	A	S									
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED						
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE

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CDS380
05/12/2019

CITY OF SANDY, CLACKAMAS COUNTY

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING
DUBARKO RD at RUBEN LN, City of Sandy, Clackamas County, 01/01/2012 to 12/31/2016

Page: 2

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Traffic Signal Warrant Analysis

Project: 18197 - Ponder Subdivision
 Date: 6/20/2019
 Scenario: Year 2021 Buildout Conditions - Morning Peak Hour

Major Street: SE 362nd Drive Minor Street: Dubarko Road
 Number of Lanes: 1 Number of Lanes: 1
 PM Peak Hour Volumes: 538 PM Peak Hour Volumes: 103

Warrant Used:
 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	5,380	8,850	
Minor Street*	1,030	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	5,380	13,300	
Minor Street*	1,030	1,350	No
<i>Combination Warrant</i>			
Major Street	5,380	10,640	
Minor Street*	1,030	2,120	No

* Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis

Project: 18197 - Ponder Subdivision
 Date: 6/20/2019
 Scenario: Year 2021 Buildout Conditions - Morning Peak Hour

Major Street: Dubarko Road Minor Street: Ruben Lane
 Number of Lanes: 1 Number of Lanes: 1
 PM Peak Hour Volumes: 248 PM Peak Hour Volumes: 19

Warrant Used:
 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	2,480	8,850	
Minor Street*	190	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	2,480	13,300	
Minor Street*	190	1,350	No
<i>Combination Warrant</i>			
Major Street	2,480	10,640	
Minor Street*	190	2,120	No

* Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis

Project: 18197 - Ponder Subdivision
 Date: 6/20/2019
 Scenario: Year 2021 Buildout Conditions - Morning Peak Hour

Major Street: Dubarko Road Minor Street: Melissa Avenue
 Number of Lanes: 1 Number of Lanes: 1
 PM Peak Hour Volumes: 84 PM Peak Hour Volumes: 113

Warrant Used:

 X 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	840	8,850	
Minor Street*	1,130	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	840	13,300	
Minor Street*	1,130	1,350	No
<i>Combination Warrant</i>			
Major Street	840	10,640	
Minor Street*	1,130	2,120	No

* Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis

Project: 18197 - Ponder Subdivision
 Date: 6/20/2019
 Scenario: Year 2021 Buildout Conditions - Morning Peak Hour

Major Street: Dubarko Road Minor Street: Bluff Road
 Number of Lanes: 1 Number of Lanes: 1
 PM Peak Hour Volumes: 164 PM Peak Hour Volumes: 36

Warrant Used:
 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	1,640	8,850	
Minor Street*	360	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	1,640	13,300	
Minor Street*	360	1,350	No
<i>Combination Warrant</i>			
Major Street	1,640	10,640	
Minor Street*	360	2,120	No

Traffic Signal Warrant Analysis

Project: 18197 - Ponder Subdivision
 Date: 6/20/2019
 Scenario: Year 2021 Buildout Conditions - Evening Peak Hour

Major Street: SE 362nd Drive Minor Street: Dubarko Road
 Number of Lanes: 1 Number of Lanes: 1
 PM Peak Hour Volumes: 1073 PM Peak Hour Volumes: 114

Warrant Used:
 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	10,730	8,850	
Minor Street*	1,140	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	10,730	13,300	
Minor Street*	1,140	1,350	No
<i>Combination Warrant</i>			
Major Street	10,730	10,640	
Minor Street*	1,140	2,120	No

* Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis

Project: 18197 - Ponder Subdivision
 Date: 6/20/2019
 Scenario: Year 2021 Buildout Conditions - Evening Peak Hour

Major Street: Dubarko Road Minor Street: Ruben Lane
 Number of Lanes: 1 Number of Lanes: 1
 PM Peak Hour Volumes: 374 PM Peak Hour Volumes: 116

Warrant Used:
 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	3,740	8,850	
Minor Street*	1,160	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	3,740	13,300	
Minor Street*	1,160	1,350	No
<i>Combination Warrant</i>			
Major Street	3,740	10,640	
Minor Street*	1,160	2,120	No

* Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis

Project: 18197 - Ponder Subdivision
 Date: 6/20/2019
 Scenario: Year 2021 Buildout Conditions - Evening Peak Hour

Major Street: Dubarko Road Minor Street: Melissa Avenue
 Number of Lanes: 1 Number of Lanes: 1
 PM Peak Hour Volumes: 287 PM Peak Hour Volumes: 68

Warrant Used:
 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	2,870	8,850	
Minor Street*	680	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	2,870	13,300	
Minor Street*	680	1,350	No
<i>Combination Warrant</i>			
Major Street	2,870	10,640	
Minor Street*	680	2,120	No

* Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis

Project: 18197 - Ponder Subdivision
 Date: 6/20/2019
 Scenario: Year 2021 Buildout Conditions - Evening Peak Hour

Major Street: Dubarko Road Minor Street: Bluff Road
 Number of Lanes: 1 Number of Lanes: 1
 PM Peak Hour Volumes: 220 PM Peak Hour Volumes: 61

Warrant Used:
 100 percent of standard warrants used
 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
Major St.	Minor St.	100% Warrants	70% Warrants	100% Warrants	70% Warrants
WARRANT 1, CONDITION A					
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	2,200	8,850	
Minor Street*	610	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	2,200	13,300	
Minor Street*	610	1,350	No
<i>Combination Warrant</i>			
Major Street	2,200	10,640	
Minor Street*	610	2,120	No

* Minor street right-turning traffic volumes reduced by 25%.

Left-Turn Lane Warrant Analysis

Project: 18197 - Ponder Subdivision
 Intersection: Melissa Avenue at Dubarko Road
 Date: 6/20/2019
 Scenario: 2021 Buildout AM

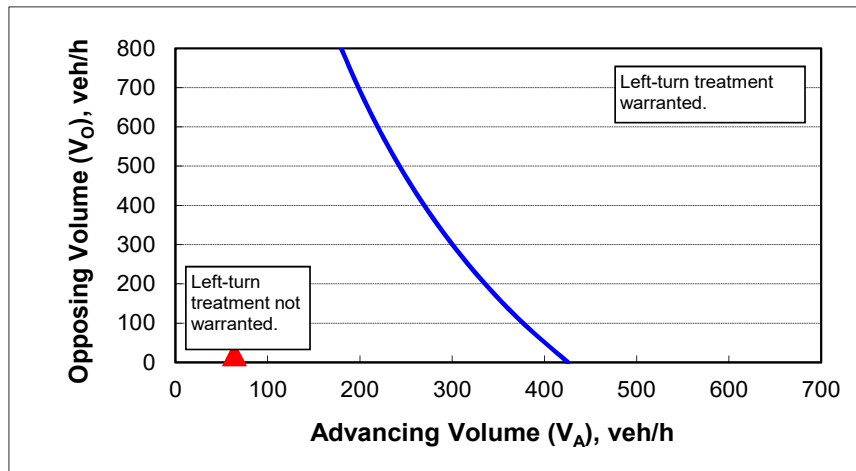
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Left-turns in advancing volume (V_A), veh/hr:	23
Advancing volume (V_A), veh/h:	64
Opposing volume (V_O), veh/h:	20

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	415
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS (2-Lane Roadway)

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 18197 - Ponder Subdivision
 Intersection: Melissa Avenue at Dubarko Road
 Date: 6/20/2019
 Scenario: 2021 Buildout PM

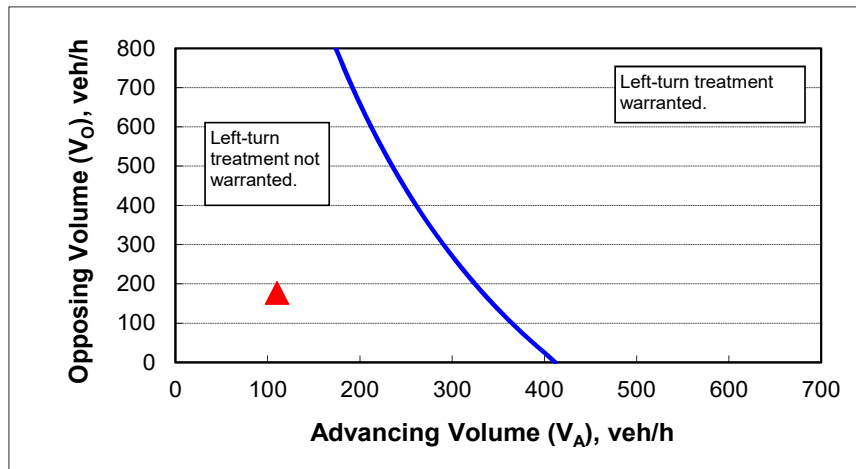
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	25
Left-turns in advancing volume (V_A), veh/hr:	48
Advancing volume (V_A), veh/h:	110
Opposing volume (V_O), veh/h:	177

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	333
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS (2-Lane Roadway)

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

HCM 2010 TWSC
1: SE 362nd Drive & Dubarko Road

05/28/2019

Intersection

Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	5	85	346	8	22	120
Future Vol, veh/h	5	85	346	8	22	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	115	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	2	2	6	6
Mvmt Flow	6	100	407	9	26	141

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	605	412	0	0	416
Stage 1	412	-	-	-	-
Stage 2	193	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.16
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.254
Pot Cap-1 Maneuver	462	642	-	-	1122
Stage 1	671	-	-	-	-
Stage 2	842	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	451	642	-	-	1122
Mov Cap-2 Maneuver	451	-	-	-	-
Stage 1	671	-	-	-	-
Stage 2	822	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s	11.9	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	627	1122
HCM Lane V/C Ratio	-	-	0.169	0.023
HCM Control Delay (s)	-	-	11.9	8.3
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1

HCM 2010 TWSC
2: Dubarko Road & Ruben Lane

05/28/2019

Intersection

Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	19	14	48	89	10	6
Future Vol, veh/h	19	14	48	89	10	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	2	2	13	13
Mvmt Flow	21	16	54	100	11	7

Major/Minor

	Major1	Major2		Minor2	
Conflicting Flow All	154	0	-	0	162
Stage 1	-	-	-	-	104
Stage 2	-	-	-	-	58
Critical Hdwy	4.16	-	-	-	6.53
Critical Hdwy Stg 1	-	-	-	-	5.53
Critical Hdwy Stg 2	-	-	-	-	5.53
Follow-up Hdwy	2.254	-	-	-	3.617
Pot Cap-1 Maneuver	1402	-	-	-	804
Stage 1	-	-	-	-	893
Stage 2	-	-	-	-	937
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1402	-	-	-	792
Mov Cap-2 Maneuver	-	-	-	-	792
Stage 1	-	-	-	-	893
Stage 2	-	-	-	-	923

Approach

	EB	WB	SB
HCM Control Delay, s	4.4	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1402	-	-	-	836
HCM Lane V/C Ratio	0.015	-	-	-	0.022
HCM Control Delay (s)	7.6	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 2010 TWSC
 3: Melissa Avenue & Dubarko Road

05/28/2019

Intersection

Int Delay, s/veh 5.5

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	8	1	14	39	40	27
Future Vol, veh/h	8	1	14	39	40	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	22	22	2	2	2	2
Mvmt Flow	10	1	18	49	51	34

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	11	0	96	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	85	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1608	-	903	1070
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	938	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1608	-	892	1070
Mov Cap-2 Maneuver	-	-	-	-	892	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	927	-

Approach EB WB NB

HCM Control Delay, s	0	1.9	9.1
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	956	-	-	1608	-
HCM Lane V/C Ratio	0.089	-	-	0.011	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

HCM 2010 AWSC
4: Dubarko Road & Bluff Road

05/28/2019

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	
Traffic Vol, veh/h	25	9	12	11	40	55
Future Vol, veh/h	25	9	12	11	40	55
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	12	12	9	9	4	4
Mvmt Flow	36	13	17	16	57	79
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.5	7.7	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	42%	0%	52%
Vol Thru, %	0%	74%	48%
Vol Right, %	58%	26%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	95	34	23
LT Vol	40	0	12
Through Vol	0	25	11
RT Vol	55	9	0
Lane Flow Rate	136	49	33
Geometry Grp	1	1	1
Degree of Util (X)	0.145	0.057	0.04
Departure Headway (Hd)	3.844	4.21	4.435
Convergence, Y/N	Yes	Yes	Yes
Cap	927	844	801
Service Time	1.892	2.267	2.495
HCM Lane V/C Ratio	0.147	0.058	0.041
HCM Control Delay	7.6	7.5	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.2	0.1

HCM 2010 TWSC
1: SE 362nd Drive & Dubarko Road

05/28/2019

Intersection

Int Delay, s/veh 2.9

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	20	91	270	17	170	516
Future Vol, veh/h	20	91	270	17	170	516
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	115	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	22	99	293	18	185	561

Major/Minor Minor1 Major1 Major2

Conflicting Flow All	1233	303	0	0	312	0
Stage 1	303	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	195	737	-	-	1254	-
Stage 1	749	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	166	737	-	-	1254	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	749	-	-	-	-	-
Stage 2	327	-	-	-	-	-

Approach WB NB SB

HCM Control Delay, s	15.7	0	2.1
HCM LOS	C		

Minor Lane/Major Mvmt NBT NBRWBLn1 SBL SBT

Capacity (veh/h)	-	-	455	1254	-
HCM Lane V/C Ratio	-	-	0.265	0.147	-
HCM Control Delay (s)	-	-	15.7	8.4	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.5	-

HCM 2010 TWSC
2: Dubarko Road & Ruben Lane

05/28/2019

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	16	147	68	50	67	33
Future Vol, veh/h	16	147	68	50	67	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	18	165	76	56	75	37
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	133	0	-	0	305	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	201	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1458	-	-	-	689	953
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	835	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1458	-	-	-	679	953
Mov Cap-2 Maneuver	-	-	-	-	679	-
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	823	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.7	0	10.6			
HCM LOS			B			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1458	-	-	-	750	
HCM Lane V/C Ratio	0.012	-	-	-	0.15	
HCM Control Delay (s)	7.5	0	-	-	10.6	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	

HCM 2010 TWSC
 3: Melissa Avenue & Dubarko Road

05/28/2019

Intersection

Int Delay, s/veh 2.1

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	85	47	22	58	21	16
Future Vol, veh/h	85	47	22	58	21	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	100	55	26	68	25	19

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	155	0	248	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	120	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1438	-	745	927
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	910	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1438	-	731	927
Mov Cap-2 Maneuver	-	-	-	-	731	-
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	893	-

Approach EB WB NB

HCM Control Delay, s	0	2.1	9.7
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	805	-	-	1438	-
HCM Lane V/C Ratio	0.054	-	-	0.018	-
HCM Control Delay (s)	9.7	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

HCM 2010 AWSC
4: Dubarko Road & Bluff Road

05/28/2019

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	19	89	23	16	56	24
Future Vol, veh/h	19	89	23	16	56	24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	22	105	27	19	66	28
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.2	7.6	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	70%	0%	59%
Vol Thru, %	0%	18%	41%
Vol Right, %	30%	82%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	80	108	39
LT Vol	56	0	23
Through Vol	0	19	16
RT Vol	24	89	0
Lane Flow Rate	94	127	46
Geometry Grp	1	1	1
Degree of Util (X)	0.109	0.127	0.055
Departure Headway (Hd)	4.175	3.606	4.282
Convergence, Y/N	Yes	Yes	Yes
Cap	853	983	829
Service Time	2.228	1.668	2.345
HCM Lane V/C Ratio	0.11	0.129	0.055
HCM Control Delay	7.7	7.2	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.4	0.2

HCM 2010 TWSC
1: SE 362nd Drive & Dubarko Road

06/06/2019

Intersection

Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	9	101	367	9	27	127
Future Vol, veh/h	9	101	367	9	27	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	115	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	2	2	6	6
Mvmt Flow	11	119	432	11	32	149

Major/Minor

	Minor1	Major1		Major2	
Conflicting Flow All	650	437	0	0	442
Stage 1	437	-	-	-	-
Stage 2	213	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.16
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.254
Pot Cap-1 Maneuver	435	622	-	-	1097
Stage 1	653	-	-	-	-
Stage 2	825	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	422	622	-	-	1097
Mov Cap-2 Maneuver	422	-	-	-	-
Stage 1	653	-	-	-	-
Stage 2	801	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s	12.7	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	599	1097
HCM Lane V/C Ratio	-	-	0.216	0.029
HCM Control Delay (s)	-	-	12.7	8.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1

HCM 2010 TWSC
2: Dubarko Road & Ruben Lane

06/06/2019

Intersection

Int Delay, s/veh 1.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	20	20	66	101	14	6
Future Vol, veh/h	20	20	66	101	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	2	2	13	13
Mvmt Flow	22	22	74	113	16	7

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	188	0	-	0	198	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	4.16	-	-	-	6.53	6.33
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	2.254	-	-	-	3.617	3.417
Pot Cap-1 Maneuver	1362	-	-	-	766	890
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1362	-	-	-	754	890
Mov Cap-2 Maneuver	-	-	-	-	754	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	914	-

Approach EB WB SB

HCM Control Delay, s	3.8	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1362	-	-	-	790
HCM Lane V/C Ratio	0.016	-	-	-	0.028
HCM Control Delay (s)	7.7	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM 2010 TWSC
 3: Melissa Avenue & Dubarko Road

06/06/2019

Intersection

Int Delay, s/veh 5.6

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	8	1	15	41	42	29
Future Vol, veh/h	8	1	15	41	42	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	22	22	2	2	2	2
Mvmt Flow	10	1	19	52	53	37

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	11	0	101	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	90	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1608	-	898	1070
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1608	-	887	1070
Mov Cap-2 Maneuver	-	-	-	-	887	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	923	-

Approach EB WB NB

HCM Control Delay, s	0	1.9	9.2
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	954	-	-	1608	-
HCM Lane V/C Ratio	0.094	-	-	0.012	-
HCM Control Delay (s)	9.2	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

HCM 2010 AWSC
4: Dubarko Road & Bluff Road

06/06/2019

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	27	10	19	12	42	60
Future Vol, veh/h	27	10	19	12	42	60
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	12	12	9	9	4	4
Mvmt Flow	39	14	27	17	60	86
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.6	7.8	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	41%	0%	61%
Vol Thru, %	0%	73%	39%
Vol Right, %	59%	27%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	102	37	31
LT Vol	42	0	19
Through Vol	0	27	12
RT Vol	60	10	0
Lane Flow Rate	146	53	44
Geometry Grp	1	1	1
Degree of Util (X)	0.156	0.062	0.055
Departure Headway (Hd)	3.864	4.233	4.475
Convergence, Y/N	Yes	Yes	Yes
Cap	919	838	794
Service Time	1.923	2.299	2.54
HCM Lane V/C Ratio	0.159	0.063	0.055
HCM Control Delay	7.6	7.6	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	0.2	0.2

HCM 2010 TWSC
1: SE 362nd Drive & Dubarko Road

06/06/2019

Intersection

Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	23	105	287	22	191	548
Future Vol, veh/h	23	105	287	22	191	548
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	115	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	25	114	312	24	208	596

Major/Minor

	Minor1	Major1		Major2	
Conflicting Flow All	1335	324	0	0	336
Stage 1	324	-	-	-	-
Stage 2	1011	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.11
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.209
Pot Cap-1 Maneuver	169	717	-	-	1229
Stage 1	733	-	-	-	-
Stage 2	352	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	140	717	-	-	1229
Mov Cap-2 Maneuver	140	-	-	-	-
Stage 1	733	-	-	-	-
Stage 2	292	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s	18.1	0	2.2
HCM LOS	C		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	412	1229
HCM Lane V/C Ratio	-	-	0.338	0.169
HCM Control Delay (s)	-	-	18.1	8.5
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.5	0.6

HCM 2010 TWSC
2: Dubarko Road & Ruben Lane

06/06/2019

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	17	171	82	57	78	35
Future Vol, veh/h	17	171	82	57	78	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	19	192	92	64	88	39
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	156	0	-	0	354	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	230	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1430	-	-	-	646	929
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	811	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1430	-	-	-	636	929
Mov Cap-2 Maneuver	-	-	-	-	636	-
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	799	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.7	0	11.2			
HCM LOS			B			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1430	-	-	-	705	
HCM Lane V/C Ratio	0.013	-	-	-	0.18	
HCM Control Delay (s)	7.6	0	-	-	11.2	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.7	

HCM 2010 TWSC
 3: Melissa Avenue & Dubarko Road

06/06/2019

Intersection

Int Delay, s/veh 2.1

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	90	50	23	62	22	17
Future Vol, veh/h	90	50	23	62	22	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	106	59	27	73	26	20

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	165	0	262	135
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	127	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	731	919
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	904	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1426	-	716	919
Mov Cap-2 Maneuver	-	-	-	-	716	-
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	886	-

Approach EB WB NB

HCM Control Delay, s	0	2	9.8
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	792	-	-	1426	-
HCM Lane V/C Ratio	0.058	-	-	0.019	-
HCM Control Delay (s)	9.8	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

HCM 2010 AWSC
4: Dubarko Road & Bluff Road

06/06/2019

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	20	94	28	17	59	31
Future Vol, veh/h	20	94	28	17	59	31
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	24	111	33	20	69	36
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.3	7.7	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	66%	0%	62%
Vol Thru, %	0%	18%	38%
Vol Right, %	34%	82%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	90	114	45
LT Vol	59	0	28
Through Vol	0	20	17
RT Vol	31	94	0
Lane Flow Rate	106	134	53
Geometry Grp	1	1	1
Degree of Util (X)	0.122	0.135	0.063
Departure Headway (Hd)	4.162	3.631	4.314
Convergence, Y/N	Yes	Yes	Yes
Cap	854	975	822
Service Time	2.222	1.7	2.385
HCM Lane V/C Ratio	0.124	0.137	0.064
HCM Control Delay	7.8	7.3	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.5	0.2

HCM 2010 TWSC
1: SE 362nd Drive & Dubarko Road

06/06/2019

Intersection

Int Delay, s/veh	3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	15	117	367	11	33	127
Future Vol, veh/h	15	117	367	11	33	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	115	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	2	2	6	6
Mvmt Flow	18	138	432	13	39	149

Major/Minor

	Minor1	Major1	Major2		
Conflicting Flow All	665	438	0	0	445
Stage 1	438	-	-	-	-
Stage 2	227	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.16
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.254
Pot Cap-1 Maneuver	427	621	-	-	1094
Stage 1	653	-	-	-	-
Stage 2	813	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	412	621	-	-	1094
Mov Cap-2 Maneuver	412	-	-	-	-
Stage 1	653	-	-	-	-
Stage 2	784	-	-	-	-

Approach

	WB	NB	SB
HCM Control Delay, s	13.3	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt

	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	587	1094
HCM Lane V/C Ratio	-	-	0.265	0.035
HCM Control Delay (s)	-	-	13.3	8.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.1	0.1

HCM 2010 TWSC
2: Dubarko Road & Ruben Lane

06/06/2019

Intersection

Int Delay, s/veh 1.3

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	20	28	88	112	14	6
Future Vol, veh/h	20	28	88	112	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	6	6	2	2	13	13
Mvmt Flow	22	31	99	126	16	7

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	225	0	-	0	238	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	76	-
Critical Hdwy	4.16	-	-	-	6.53	6.33
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	2.254	-	-	-	3.617	3.417
Pot Cap-1 Maneuver	1320	-	-	-	727	855
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	920	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1320	-	-	-	715	855
Mov Cap-2 Maneuver	-	-	-	-	715	-
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	904	-

Approach EB WB SB

HCM Control Delay, s	3.2	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1320	-	-	-	752
HCM Lane V/C Ratio	0.017	-	-	-	0.03
HCM Control Delay (s)	7.8	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM 2010 TWSC
 3: Melissa Avenue & Dubarko Road

06/06/2019

Intersection

Int Delay, s/veh 6.6

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	8	12	23	41	75	51
Future Vol, veh/h	8	12	23	41	75	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	22	22	2	2	2	2
Mvmt Flow	10	15	29	52	95	65

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	25	0	128	18
Stage 1	-	-	-	-	18	-
Stage 2	-	-	-	-	110	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1589	-	866	1061
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	915	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1589	-	850	1061
Mov Cap-2 Maneuver	-	-	-	-	850	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	898	-

Approach EB WB NB

HCM Control Delay, s	0	2.6	9.7
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	924	-	-	1589	-
HCM Lane V/C Ratio	0.173	-	-	0.018	-
HCM Control Delay (s)	9.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

HCM 2010 AWSC
4: Dubarko Road & Bluff Road

06/06/2019

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	
Traffic Vol, veh/h	41	18	19	17	45	60
Future Vol, veh/h	41	18	19	17	45	60
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	12	12	9	9	4	4
Mvmt Flow	59	26	27	24	64	86
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	7.9	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	43%	0%	53%
Vol Thru, %	0%	69%	47%
Vol Right, %	57%	31%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	105	59	36
LT Vol	45	0	19
Through Vol	0	41	17
RT Vol	60	18	0
Lane Flow Rate	150	84	51
Geometry Grp	1	1	1
Degree of Util (X)	0.164	0.099	0.064
Departure Headway (Hd)	3.944	4.224	4.488
Convergence, Y/N	Yes	Yes	Yes
Cap	897	838	788
Service Time	2.024	2.302	2.572
HCM Lane V/C Ratio	0.167	0.1	0.065
HCM Control Delay	7.8	7.8	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	0.3	0.2

HCM 2010 TWSC
1: SE 362nd Drive & Dubarko Road

06/06/2019

Intersection

Int Delay, s/veh 3.9

Movement WBL WBR NBT NBR SBL SBT

Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	27	116	287	28	210	548
Future Vol, veh/h	27	116	287	28	210	548
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	115	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	29	126	312	30	228	596

Major/Minor Minor1 Major1 Major2

Conflicting Flow All	1379	327	0	0	342	0
Stage 1	327	-	-	-	-	-
Stage 2	1052	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	159	714	-	-	1223	-
Stage 1	731	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	129	714	-	-	1223	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	273	-	-	-	-	-

Approach WB NB SB

HCM Control Delay, s	20.5	0	2.4
HCM LOS	C		

Minor Lane/Major Mvmt NBT NBRWBLn1 SBL SBT

Capacity (veh/h)	-	-	385	1223	-
HCM Lane V/C Ratio	-	-	0.404	0.187	-
HCM Control Delay (s)	-	-	20.5	8.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.9	0.7	-

HCM 2010 TWSC
2: Dubarko Road & Ruben Lane

06/06/2019

Intersection

Int Delay, s/veh 3.2

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	17	196	97	64	90	35
Future Vol, veh/h	17	196	97	64	90	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	19	220	109	72	101	39

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	181	0	-	0	403	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	258	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1400	-	-	-	605	905
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	787	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1400	-	-	-	596	905
Mov Cap-2 Maneuver	-	-	-	-	596	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	775	-

Approach EB WB SB

HCM Control Delay, s	0.6	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1400	-	-	-	659
HCM Lane V/C Ratio	0.014	-	-	-	0.213
HCM Control Delay (s)	7.6	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

HCM 2010 TWSC
3: Melissa Avenue & Dubarko Road

06/06/2019

Intersection

Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↶	↷
Traffic Vol, veh/h	90	87	48	62	44	32
Future Vol, veh/h	90	87	48	62	44	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	106	102	56	73	52	38

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	208	0	343
Stage 1	-	-	-	-	157
Stage 2	-	-	-	-	186
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1375	-	657
Stage 1	-	-	-	-	876
Stage 2	-	-	-	-	851
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1375	-	629
Mov Cap-2 Maneuver	-	-	-	-	629
Stage 1	-	-	-	-	876
Stage 2	-	-	-	-	815

Approach

	EB	WB	NB
HCM Control Delay, s	0	3.4	10.7
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	719	-	-	1375	-
HCM Lane V/C Ratio	0.124	-	-	0.041	-
HCM Control Delay (s)	10.7	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

HCM 2010 AWSC
4: Dubarko Road & Bluff Road

06/06/2019

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	29	100	28	33	68	31
Future Vol, veh/h	29	100	28	33	68	31
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	34	118	33	39	80	36
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.5	7.8	8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	69%	0%	46%
Vol Thru, %	0%	22%	54%
Vol Right, %	31%	78%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	99	129	61
LT Vol	68	0	28
Through Vol	0	29	33
RT Vol	31	100	0
Lane Flow Rate	116	152	72
Geometry Grp	1	1	1
Degree of Util (X)	0.137	0.156	0.086
Departure Headway (Hd)	4.249	3.695	4.316
Convergence, Y/N	Yes	Yes	Yes
Cap	833	955	819
Service Time	2.33	1.78	2.401
HCM Lane V/C Ratio	0.139	0.159	0.088
HCM Control Delay	8	7.5	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.6	0.3

JB

EXHIBIT I

WARRANTY DEED - STATUTORY FORM
(Individual or Corporation)

JOE B. PHILLIPS

Grantor, conveys and warrants to:

LAWRENCE L. PULLEN and RICHARD L. PULLEN and MARK D. TEN EYCK

Grantee, the following described real property free of encumbrances except as specifically set forth herein:

PLEASE SEE ATTACHED DESCRIPTION SHEET

This instrument will not allow use of the property described in this instrument in violation of applicable land use laws and regulations. Before signing or accepting this instrument, the person acquiring fee title to the property should check with the appropriate city or county planning department to verify approved uses.

ENCUMBRANCES:

NONE

The true consideration for this conveyance is \$40,000.00.

Dated this 21st day of April, 1993; if a corporate grantor, it has caused its name to be signed by order of its board of directors.

CHICAGO TITLE INSURANCE COMPANY
C-108/08

Joe B. Phillips
JOE B. PHILLIPS

STATE OF OREGON,)
County of Clackamas)ss.
April 21, 1993.)

Personally appeared the above named JOE B. PHILLIPS and acknowledged the foregoing instrument to be his/her/their voluntary act and deed.

Before me:

Luella J. Taylor
Notary Public for Oregon
My commission expires: 3-2-94



After recording return and send tax statements to:
LAWRENCE L. PULLEN
36940 SE Deming
Sandy, OR 97055

Escrow No. 2300-00570-LF - Order No. 108108

93 28438

A portion of the Southwest one-quarter of the Northeast one-quarter of Section 23, Township 2 South, Range 4 East of the Willamette Meridian, in the County of Clackamas and State of Oregon, being more particularly described as follows:

Beginning at a stone marking the Northwest corner of said legal subdivision; thence N.88°26'40"E., along the North line thereof, a distance of 1321.91 feet to the Northeast corner of said legal subdivision; thence S.0°18'10"E., along the East line thereof, a distance of 388.20 feet to a point in the Northwesterly right-of-way line of Oregon State Highway No. 211; thence S.33°18'01"W., along said right-of-way line, a distance of 558.61 feet to an iron rod; thence N.51°08'54"W., leaving said right-of-way line, a distance of 1305.73 feet to the point of beginning.

2

STATE OF OREGON }
County of Clackamas } ss.
I, John Kaufman, County Clerk, for the County of Clackamas, do hereby certify that the instrument of writing was received for recording in the records of said county at

93 APR 29 PM 2:00



Witness my hand and seal this 29th day of April 1993.
John Kaufman
JOHN KAUFMAN
County Clerk
Recording Certificate
CCP-RS (Rev. 8/91)

93 28438

EXHIBIT J

May 27, 2020

Dear Planning Commission and Kelly:

Regarding the proposed off-site parkland dedication, south of Bailey Meadows. I appreciate that you determined at the last possible moment (long after public testimony had closed) that as proposed, this parkland did not meet 17.86. I am unclear how the annexation at tonight's hearing addresses the adequacy of the parkland dedication. Here are my still outstanding questions.

I understand you are requiring the "front" of the homes to face the park. I am only familiar with the homes on Bluff, north of the overlook, where homes were required to look like the front of the home faces Bluff, so they have a gate and sidewalk to the back/front door. 17.86.20 shows not only the homes facing the park, but a road being in the front of the homes (like a regular house with a road in front, garage, etc.) Instead, what I glean is that the park fronted houses will have no road (along the park), and will have the back (park facing) of their homes made to look like the front, but with no possible access since (unlike Bluff) there will be no road. I would assume, like normal homeowners, they will want to fence their backyard. So this will look like their fenced back yard as seen from the park. This proposal completely violates the intent of 17.86.20.

Because no road was required in front/back? of these homes, then there is also no vehicle access to this park at all. I assume there will be no parking allowed on Gunderson since it is an arterial. So only those residents who can walk to the park will be able to use it. I believe this is the only park I am aware of in Sandy that will have no vehicle access and clearly violate 17.86. Are there any options for them to develop at least a few spots? Otherwise, use of the park will be very limited!

17.86.30 A:

Prior to acceptance of required parkland dedications, the applicant/developer shall complete the following items for all proposed dedication areas:

- 1. The developer shall clear, fill, and/or grade all land to the satisfaction of the City, install sidewalks on the park land adjacent to any street, and seed the park land; and,*
- 2. The developer shall submit a Phase I Environmental Site Assessment completed by a qualified professional according to American Society of Testing and Materials (ASTM) standards (ASTM E 1527). The results of this study shall indicate a clean environmental record.*

Are these two items being done? Are they part of the conditions for approval? Otherwise, no one can even walk to the park without a sidewalk! We should not be paying for any of this!!

If needed, these requirements should be made a part of the development agreement, construction plans, or whatever other instrument **(AT THE DEVELOPER'S EXPENSE BECAUSE HE IS GETTING CREDIT FOR THE PARKLAND INSTEAD OF PAYING IN-LIEU-OF FEES!**

He should be required to clear, fill and grade, and seed the park to our satisfaction. He should be required to build a park front road, or at least some adequate parking and a sidewalk along the east side of Gunderson to access the park. All of this should be provided, or else this piece

of land is useless to all but the developer getting it off his tax roll. After we have had to hand over so much in this travesty proposal, I would hope that if you allow park land dedication, that you make him follow the parkland dedication code. Otherwise, we should ask for the in-lieu of fee instead and use it for parkland that DOES meet 17.86.

Sincerely,

Kathleen Walker

15920 SE Bluff Rd. Sandy, OR 97055

SUBJECT: File No. 20-001 ANN/CPA/ZC Gunderson Road & Parkland Annexation

AGENDA DATE: May 27, 2020

DEPARTMENT: Development Services Department

STAFF CONTACT: Kelly O’Neill Jr., Development Services Director

EXHIBITS:

Applicant’s Submittals:

- A. Land Use Application
- B. Supplemental Land Use Application Form No. 1
- C. Supplemental Annexation Land Use Application Form No. 2
- D. Written Consent Form
- E. Narrative
- F. Vicinity Map
- G. Legal Description and Maps
- H. Transportation Impact Analysis
- I. Warranty Deed

Agency Comments:

None

Public Comments:

None

I. BACKGROUND

A. PROCEEDING

Type IV Annexation, Comprehensive Map Change, and Zoning Map Change

B. FACTUAL INFORMATION

- 1. APPLICANT: Allied Homes & Development
- 2. OWNERS: Lawrence Pullen, Richard Pullen, and Sherrene TenEyck
- 3. PROJECT NAME: Gunderson Road & Parkland Annexation
- 4. LEGAL DESCRIPTION: T2S R4E Section 23 Tax Lot 701
- 5. PROPERTY LOCATION: North of Highway 211 and South of Ponder Lane
- 6. PROPOSED AREA: 6.42 acres

20-001 ANN_CPA_ZC Gunderson Road and Parkland Annexation Staff Report PC

7. **PROPOSAL:** The applicant, Allied Homes and Development, proposes to annex 6.42 acres to meet a need for certain public facilities (a minor arterial road and parkland). The applicant proposed a comprehensive plan designation of Low Density Residential and Parks and Open Space, and a zoning designation of Single Family Residential (SFR) for the roads and associated facilities totaling 4.04 acres and Parks and Open Space (POS) for the 2.38 acre park.
8. **CITY COMPREHENSIVE PLAN DESIGNATIONS:** Low Density Residential, Parks & Open Space
9. **COUNTY COMPREHENSIVE PLAN DESIGNATION:** Agriculture (AG)
10. **CITY ZONING DISTRICT DESIGNATIONS:** Single Family Residential (SFR), Parks & Open Space (POS)
11. **COUNTY ZONING DISTRICT DESIGNATION:** Exclusive Farm Use (EFU)
12. **RESPONSE FROM GOVERNMENTAL AGENCIES, UTILITY PROVIDERS, CITY DEPARTMENTS AND THE GENERAL PUBLIC:** None

C. APPLICABLE CRITERIA: Sandy Development Code: 17.12 Procedures for Decision Making; 17.18 Processing Applications; 17.22 Notices; 17.24 Comprehensive Plan Amendment Procedures; 17.26 Zoning District Amendments; 17.32 Parks and Open Space (POS); 17.34 Single Family Residential (SFR); 17.78 Annexation; 17.86 Parkland and Open Space.

D. BACKGROUND INFORMATION

The purpose of the UGB expansion is to accommodate Gunderson Road and parkland to the south of Bailey Meadows to fulfill anticipated conditions of approval from the Bailey Meadows land use application. The alignment for Gunderson Road is located on property (Tax Map 24E23 Tax Lot 701) that is located outside of Sandy’s City limits and UGB. The subject property is currently designated Exclusive Farm Use (EFU) by Clackamas County, but is within the City of Sandy’s Urban Reserve Area (URA). Under Oregon law, lands designated URA are “first priority” lands to be included in a UGB expansion. The portion of the property that is anticipated within the amended UGB is limited to areas necessary for parkland and land to construct the Gunderson Road extension, including land for the roadway, associated storm drainage improvements, accompanying utilities, grading, etc.

UGB expansions are subject to both city approval and county approval. On February 11, 2020 the Planning Commission recommended approval of the UGB expansion to the City Council. On March 2, 2020 the City Council passed Ordinance No. 2020-03 approving the expansion of the UGB. Then on March 9, 2020 the Clackamas County Planning Commission recommended approval of the UGB Expansion to the Clackamas County Board of Commissioners. On June 3, 2020 the Board of Commissioners will make a decision regarding the UGB expansion.

The areas being considered with this annexation are detailed in Exhibit G as follows:

Area 1 - Parkland Area: 2.38 acres

Areas 2 and 6 - Permanent Slope Easement/Temporary Construction Easement Area: 30,970 square feet

Area 3 - Public Right-of-Way Dedication (for Gunderson Road): 1.02 acres

Area 4 - Public Utility Easement: 4,802 square feet

Area 5 - Stormwater Facility: 30,143 square feet

Area 7 - Highway (211) Area: 2.05 acres

As explained by the applicant if you add the square footage and acreage, the sum is greater than 6.42 acres because Areas 2 and 4 overlap and are included within Area 1. The total acreage is the same when Areas 2 and 4 are removed from the equation.

E. PROCEDURAL CONSIDERATIONS

This request is being processed under a Type IV quasi-judicial review. Notification of the proposal was mailed to property owners within 500 feet of the subject property and to affected agencies on April 22, 2020. Notification of the proposal was sent to the Department of Land Conservation and Development (DLCD) on April 21, 2020 and a legal notice was published in the Sandy Post on May 6, 2020.

The Planning Commission will review the request at a public hearing on May 27, 2020 and forward a recommendation to the City Council for final decision on this request. If the Planning Commission recommends approval to the City Council, the recommendation should be subject to the Clackamas County Board of Commissioners approving the UGB expansion on June 3.

II. ANALYSIS OF CODE COMPLIANCE

1. Chapter 17.24 Comprehensive Plan Map Amendment

The applicant is not seeking to add land for additional residential, commercial or industrial development. Approving the proposed annexation would only allow a road and public parkland. The land is currently designated Urban Reserve, but the Clackamas County Board of Commissioners is considering a UGB Expansion on June 3, 2020.

Section 17.24.70 contains the review criteria for a comprehensive plan amendment. Criterion A states: "The change being proposed is the best means of meeting the identified public need" and Criterion B states: "The change conforms to all applicable Statewide Planning Goals." The purpose of the annexation proposal is to provide a second access to the proposed subdivision via Gunderson Road and to provide parkland, both of which are intended to meet an identified public need. The TSP details Gunderson Road connecting to Highway 211 and the Parks Master Plan details a conceptual park location in close proximity to the proposed parkland. The proposed annexation conforms to the Sandy

Comprehensive Plan goals, which reflect the Statewide Planning Goals. Per the applicant's narrative, the application is consistent with the following goals:

Goal 1, Policies 1, 2, and 4: Per the narrative "The City of Sandy has an established citizen involvement program. The application will be processed according to Chapter 17.12 of the LDC, which involves public notification, public hearings, and decision appeal procedures, as established in City of Sandy LDC Section 17.12.30 and 17.12.40. Therefore, the application is consistent with Goal 1."

Goal 2, Policy 2: Per the narrative "Changes to the Comprehensive Plan Map are consistent with SDC Chapter 17.12 and the applicable policies of the Comprehensive Plan, as detailed in this written narrative. Consistency with applicable State statute and rules and the Urban Growth Management Agreement (UGMA) between City of Sandy and Clackamas County have been addressed in this document. Therefore, Policy 2 above is met."

Goal 2, Policy 14: Per the narrative "The alignment of the extension of Gunderson Road to OR 211, a proposed plan element in the City's TSP, is conceptual. The actual location should be determined through the development process, as outlined above. To provide this public transportation facility improvement, the road should be extended to match the conceptual alignment in the Sandy TSP. However, due to geometrical issues, safety concerns, and potential for transportation hazards, the alignment illustrated in the Sandy TSP is not practicable for construction. This application provides for a solution to extend Gunderson Road and determine the actual functionable location through site analysis and development review. The location shown in Exhibit C can be improved to provide the required site characteristics and execute the extension of the transportation network to satisfy the needs of citizens in the general area. Please see the TIA and Supplemental Materials of Exhibit C for further details. Additionally, according to the Sandy Parks Master Plan adopted May 15, 1997, there is not a conceptual location for a park on or near the subject site. Therefore, the location for the improvement should be determined through the development process. Though parkland dedication is not required of the Bailey Meadows Subdivision application, the Applicant is providing it and it must be brought within the Sandy UGB and annexed to allow for it. Policy 14 above is met."

Goal 6: Per the narrative "The City's Comprehensive Plan with respect to Goal 6 and its development regulations governing land, air, and water quality are not affected by the decision. The intent of extending Gunderson Road to OR 211 is to enhance neighborhood circulation and provide local parkland, thereby reducing congestion and delay in the area. This mitigates localized pollution impacts of vehicle activity in the area."

Goal 8, Policies 1, 2, and 10: Per the narrative "According to the Sandy Parks Master Plan adopted May 15, 1997, there is not a conceptual location for a park on or near the subject site. Therefore, the location for the improvement should be determined through the development process. Though parkland dedication is not required of the Bailey Meadows Subdivision application, the Applicant is providing it and it must be brought within the Sandy UGB and annexed to allow for it. The City's Comprehensive Plan with respect to Goal 8 above is met."

Goal 11: Per the narrative “The City’s Comprehensive Plan contains an acknowledged Goal 11 element that includes policies to ensure sufficient and adequate public services are available (or will be available as appropriate) to serve lands within the UGB. The property north of the subject site, Bailey Meadows Subdivision, was found to be sufficiently served by public services at the time it was annexed into the City in June 2017. This application involves amending the City’s UGB to permit the extension of a public transportation facility (i.e., Gunderson Road) to allow for a future connection to OR 211. If approved, the extension is intended as an additional access to the subdivision and to distribute traffic from local streets to the surrounding area. The extension is not required for subdivision approval. Additionally, providing parkland on the northeast portion of Tax Lot 701 will enhance quality of life for the residents in the area. The parkland dedication is not required for subdivision approval. Goal 11 is satisfied”

Goal 12, Policy 1: Per the narrative “This application involves the extension of a public transportation facility (i.e., Gunderson Road) to allow Bailey Meadows Subdivision a future connection to OR 211, as illustrated in the City of Sandy TSP. If approved, the extension is intended as an additional access to the subdivision and to distribute traffic from local streets to the surrounding area. The extension is planned to support a pattern of connected streets as stated above but is not required for subdivision approval.”

Goal 12, Policy 2: Per the narrative “Appendix D, Section D107 of the Oregon Fire Code addresses standards regarding fire apparatus access roads for one or two-family developments. As discussed in the Bailey Meadows Subdivision application (City of Sandy Local File No. 19-023 SUB/VAR/TREE), the subdivision currently provides two separate and approved fire apparatus access roads (Melissa Avenue and SE Ponder Lane) and shall meet the requirements of Section D104.3. The extension of Gunderson Road would provide an additional access to the subdivision. Therefore, if approved, the Gunderson Road extension will provide the secondary access to the subdivision and SE Ponder Lane will not be utilized to serve as an emergency access as described above. Additionally, the nature of Policy 2 above requires coordination of the application by the City with affected governmental entities. Coordination requires notice of an application, an opportunity for an affected governmental entity to comment on the application, and the City’s incorporation of the comments to a reasonable extent. The City can find that coordination of this application will be accomplished in two ways: by the Applicant prior to application submittal, and by the City in the review process for the application. Goal 12, Policy 2 is satisfied.”

Goal 12, Policies 21 and 22: Per the narrative “The above criteria applies to City processes for noticing and coordinating with ODOT, as applicable. The standards above apply as the project plans to extend Gunderson Road to OR 211. Direct action by the Applicant will be taken as applicable. Policy 21 and 22 can be satisfied.”

Goal 14, Policy 1: Per the narrative “This application to amend the City UGB is necessary to provide a public transportation facility (i.e., Gunderson Road) to support residential land north of the project site which was included within the UGB and subsequently annexed in 2017. Additionally, this application provides parkland dedication which will benefit

residential lands in the vicinity. As described above, the City is required to maintain a UGB with sufficient residential lands, as addressed in the February 2017 City of Sandy Urban Growth Boundary Expansion Analysis. This application will provide a public road as illustrated in the Sandy TSP that aligns with the existing transportation network in the area and implement a connection to OR 211.”

Goal 14, Policies 2 and 3: Per the narrative “The project site is currently vacant, with pasture and vegetated areas. As stated above, urban growth should be directed in a contiguous manner and the planned Gunderson Road extension will facilitate growth north of the project site while having no impact on urban services or utilities. Per Goal 14, Policy 3(b) above, the City shall encourage the development of land which is contiguous to development areas where services can be easily and economically extended. The extension of Gunderson Road will provide access and distribute traffic from local streets to the surrounding area and provide parkland dedication, a benefit to lands north of the project site and those within the City limits.”

Goal 14, Policy 4: Per the narrative “The property involved in this application, Tax Lot 701, is associated with an UGMA, as it is within the Sandy Adopted URA. The applicable elements are addressed within this written narrative.”

Goal 14, Policy 6: Per the narrative “This application involves a property owner’s (i.e., the Applicant’s) request that Tax Lot 701, land within the designated Sandy URA, be included with the Sandy UGB. The applicable criteria, including Land Conservation and Development Commission (LCDC) Goal 14 noted above, have been addressed in this written document. Policy 6 is relevant and satisfied.”

Goal 14, Policy 7: Per the narrative “The subject application involves property which is located within the URA. This written document contains analysis of the City’s comprehensive plan goals and policies associated with the property. Therefore, Policy 7 is applicable.”

Goal 14, Policy 8: Per the narrative “Tax Lot 701 is located within the Sandy Adopted URA. Therefore, Policy 8 is applicable, and the City of Sandy shall have the lead role in coordinating this application for the planned public transportation and parkland facilities”

Goal 14, Policy 9: Per the narrative “Tax Lot 701 is located within the Sandy Adopted URA and is currently designated with Clackamas County EFU zoning. An application for annexation and a comprehensive plan amendment is necessary to apply City zoning to allow for the public transportation and parkland facilities. Policy 9 is applicable and satisfied.”

Goal 14, Policy 11: Per the narrative “Tax Lot 701 is located within the Sandy Adopted URA. Therefore, Policy 11 is applicable, and the City of Sandy shall coordinate with Clackamas County in processing the subject land use and development application for unincorporated lands within the URA.”

Goal 14, Policy 12: Per the narrative “Tax Lot 701 is located within the Sandy Adopted URA and is currently designated with Clackamas County EFU zoning. An application for annexation and a comprehensive plan amendment is necessary to apply City zoning allowing this urban development (i.e., creation of a public transportation facility and a public parkland facility). Therefore, the subject application does not involve new commercial, industrial, or agricultural uses. The Applicant understands that City Low-Density Residential (LDR) Comprehensive Plan and Single-Family Residential (SFR) Zoning designations are intended for the property. Interim use and development, prior to annexation, is not associated with this application. The application complies with the applicable components of Policy 12 above.”

As mentioned above, the Board of County Commissioners (BOC) will hold a hearing on June 3 to consider approving the UGB amendment. As part of its recommendation of approval to the BOC, the Clackamas County Planning Commission included a recommended condition of approval addressing the Historic Barlow Road. The suggested condition addressed road improvements in the expansion area in order to minimize impacts to the Barlow Road Historic Corridor through the location of construction staging activities; excavation of the stormwater facility; and preserving any portions of the road that are apparent in the park land.

2. Chapter 17.26 Zoning District Amendments

In association with the annexation request, the applicant requests Single Family Residential (SFR) zoning to apply to 4.04 acres and Parks & Open Space (POS) zoning to apply to 2.38 acres as designated in the UGB Expansion in File No. 20-002.

The applicant submitted a Traffic Impact Analysis (Exhibit H), which addresses the Transportation Planning Rule and associated approval criteria relative to the proposed UGB amendment, comprehensive plan and zone map amendments, and annexation application. The analysis determined a left-turn lane is warranted at the intersection of Gunderson Road at Highway 211 using the 2022 buildout scenario, therefore it is recommended that a left-turn lane be constructed as part of the intersection improvements. Traffic signal warrants are not met at the intersection of Gunderson Road at Highway 211 under the 2022 buildout scenario. The analysis concludes that “the proposed UGB amendment, comprehensive plan and zone map amendments, and annexation will implement the City of Sandy TSP and result in improved operation at the study area roadways and intersections. The connection will improve conditions for the existing neighborhood to the north of the Bailey Meadows subdivision by providing another means of vehicular access to the area.”

3. Chapter 17.78 Annexation

Section 17.78.15 requires the annexation is processed as a Type A, Type B, or Type C.

RESPONSE: *The applicant requests a Type C annexation to modify the comprehensive plan map and the zoning map. The applicant has submitted all the required materials to process the request as a Type C annexation.*

Section 17.78.20 requires that the following conditions must be met prior to beginning an annexation request:

- A. The requirement of Oregon Revised Statutes, Chapters 199 and 222 for initiation of the annexation process are met;
- B. The site must be within the City of Sandy Urban Growth Boundary (UGB);
- C. The site must be contiguous to the city or separated from it only by a public right-of-way or a stream, bay, lake or other body of water;
- D. The site has not violated Section 17.78.25.

***RESPONSE:** Oregon Revised Statute Section 199 pertains to Local Government Boundary Commissions and City-County Consolidation. Oregon Revised Statute Section 222 pertains to City Boundary Changes; Mergers; Consolidations and Withdrawals. The proposal complies with applicable requirements at this time and all notices were mailed as necessary.*

The proposed annexation area is located within an area that is anticipated to be in the Urban Growth Boundary (UGB) and is contiguous to city limits on the north side of the subject property.

Section 17.78.25 requires review of tree retention requirements per SMC 17.102 and SMC 17.60 at the time of annexation to discourage property owners from removing trees prior to annexing as a way of avoiding Urban Forestry Ordinance provisions.

- A. Properties shall not be considered for annexation for a minimum of five (5) years if any of the following apply:
 - 1. Where any trees six (6) inches or greater diameter at breast height (DBH) have been removed within 25 feet of the high water level along a perennial stream in the five years prior to the annexation application.
 - 2. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 80 feet of the high water level of Tickle Creek in the five years prior to the annexation application.
 - 3. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 50 feet of the high water level along other perennial streams in the five years prior to the annexation application.
 - 4. Where any trees six (6) inches or greater DBH have been removed on 25 percent or greater slopes in the five years prior to the annexation application.

5. Where more than ten (10) trees (11 inches or greater DBH) per gross acre have been removed in the five years prior to the annexation application, except as provided below:
 - a. Sites under one (1) acre in area shall not remove more than five (5) trees in the five years prior to the annexation application.
 - b. Sites where removal of ten (10) or fewer trees will result in fewer than three (3) trees per gross acre remaining on the site. Tree removal may not result in fewer than three (3) trees per gross acre remaining on the site. At least three (3) healthy, non-nuisance trees 11 inches DBH or greater must be retained for every one-acre of contiguous ownership.
 - c. For properties in or adjacent to the Bornstedt Village Overlay (BVO), tree removal must not result in fewer than six (6) healthy 11 inch DBH or greater trees per acre. For properties in or adjacent to the BVO and within 300 feet of the FSH Overlay District, tree removal must not result in fewer than nine (9) healthy 11 inch DBH or greater trees per acre.

Rounding: Site area shall be rounded to the nearest half acre and allowed tree removal shall be calculated accordingly. For example, a 1.5 acre site will not be allowed to remove more than fifteen (15) trees in the five years prior to the annexation application. A calculation of 1.2 acres is rounded down to one (1) acre and a calculation of 1.8 is rounded up to two (2) acres.

Cumulative Calculation: Total gross acreage includes riparian areas and other sensitive habitat. Trees removed under Sections 17.78.25(A) 2. and 3. shall count towards tree removal under Section 17.78.25(A) 5.

B. Exceptions. The City Council may grant exceptions to this section where:

1. The property owner can demonstrate that Douglas Fir, Western Red Cedar, or other appropriate native trees were planted at a ratio of at least two trees for every one tree removed no less than five years prior to the submission of the annexation application, and at least 50 percent of these trees have remained healthy; or
2. The Council finds that tree removal was necessary due to hazards, or utility easements or access; or
3. The trees were removed because they were dead, dying, or diseased and their condition as such resulted from an accident or non-human cause, as determined by a certified arborist or other qualified professional; or
4. The trees removed were nuisance trees; or

5. The trees were removed as part of a stream restoration and enhancement program approved by the Oregon Department of Fish and Wildlife as improving riparian function; or
6. The trees removed were orchard trees, Christmas trees, or commercial nursery trees grown for commercial purposes; or
7. The application of this section will create an island of unincorporated area.

RESPONSE: *The subject property is 6.42 acres and requires retention of 19 trees 11-inches DBH or greater and in good condition. Per the submitted narrative (Exhibit E), the subject property has not violated Section 17.78.25. A review of aerial photos from the five years prior to submittal of this application (2015 to the present) reveals that tree canopy has remained in a similar condition. Based solely on aerial photos staff finds that no significant tree removal has occurred on the subject property. **Prior to any future tree removal on the subject property the applicant shall apply and receive approval for a tree removal permit in compliance with Chapter 17.102. Removal of trees without a permit prior to annexation approval shall result in the property not being considered for annexation for at least five (5) years. Removal of trees without a permit after annexation shall be enforced in compliance with Chapter 17.06.***

Section 17.78.50 contains required annexation criteria. Requests for annexation shall not have an adverse impact on the citizens of Sandy, either financially or in relation to the livability of the city or any neighborhoods within the annexation area. Generally, it is desirable for the city to annex an area if the annexation meets any of the following criteria:

- A. A necessary control for development form and standards of an area adjacent to the city; or
- B. A needed solution for existing problems, resulting from insufficient sanitation, water service, or other urban service related problems; or
- C. Land for development to meet urban needs and that meets a logical growth pattern of the city and encourages orderly growth; or
- D. Needed routes for utility and transportation networks.

RESPONSE: *The applicant's narrative (Exhibit E) indicates they believe annexation of the subject property meets Criterion C above. The annexation is to allow the extension of Gunderson Road (and urban public transportation facility) and parkland. Per the narrative, "The extension would provide an additional access to the Bailey Meadows Subdivision and distribute traffic in the area and meet needs for an area of planned, logical urban growth" in compliance with Criterion C. Staff agrees that the proposed annexation meets Criterion C.*

III. RECOMMENDATION

Staff recommends the Planning Commission forward a recommendation of approval to City Council, subject to: (1) the Clackamas County Board of Commissioners approving the UGB expansion on June 3; and (2) a condition limiting the future uses of the 4.04 acres zoned SFR to right-of-way and utility uses and associated facilities to support such uses.



NO. 2020-11

AN ORDINANCE APPROVING ANNEXATION OF ONE PROPERTY AND RIGHT-OF-WAY TOTALING APPROXIMATELY 6.42 ACRES AND ASSIGNMENT OF SINGLE FAMILY RESIDENTIAL (SFR) AND PARKS AND OPEN SPACE (POS) ZONING IN CONFORMANCE WITH THE URBAN GROWTH BOUNDARY EXPANSION IN FILE NO. 20-002 UGB.

WHEREAS, Allied Homes and Development on behalf of the property owners, Lawrence Pullen, Richard Pullen, and Sherrene TenEyck submitted an application (File No. 18-001 ANN/CPA/ZC) requesting approval to annex one parcel and right-of-way totaling approximately 6.42 acres known as T2S R4E Section 23, Tax Lot 701 and requested that SFR (Single Family Residential) and POS (Parks and Open Space) zoning be assigned in conformance with the Urban Growth Boundary Expansion in land use File No. 20-002 UGB;

WHEREAS, Sandy Municipal Code Chapter 17.78, Annexation identifies the procedures to be followed by the City for annexations;

WHEREAS, in 2016, the Oregon Legislature passed Senate Bill 1573, effective March 15, 2016 that requires a city whose charter requires annexations to be approved by voters to annex the property without submitting it to the voters if the proposal meets certain criteria;

WHEREAS, original notification of the proposed annexation was sent to the Department of Land Conservation and Development on April 21, 2020. A separate notice was sent to the property owners and other property owners within 500 feet of the subject property on April 22, 2020 with a legal description of the request being published in the in the May 6, 2020 edition of the Sandy Post;

WHEREAS, the Sandy Planning Commission reviewed the request at a public hearing on May 27, 2020 and recommended City Council approve the annexation with the recommended conditions identified by staff in the staff report; and

WHEREAS, the Sandy City Council reviewed the request at a public hearing on June 15, 2020 and determined the proposal complies with both the criteria in SB 1573 and the criteria in the Sandy Municipal Code Chapter 17.78, Annexation.

NOW, THEREFORE, THE CITY OF SANDY ORDAINS AS FOLLOWS:

Section 1: The property described in Exhibit A, attached to this ordinance and incorporated by reference, is annexed into the City of Sandy. The City Council directs staff to amend the city

#2020-11

limits boundary and to provide notice of the annexation to other agencies and organizations as required by state law.

Section 2: The City Council adopts the June 15, 2020 staff report as findings supporting the approval of this annexation and incorporates the report into this ordinance by reference, including the conditions of approval stated in the report.

Section 3: The City Council assigns a comprehensive plan designation of Low Density Residential for the 4.04 acre area comprising the Gunderson Road right-of-way and its associated facilities and a comprehensive plan designation of Parks and Open Space for the 2.38 acre area comprising the parkland dedication.

Section 4: The Zoning designation for the subject properties will be changed to SFR, Single Family Residential for 4.04 acres and POS, Parks and Open Space for 2.38 acres as attached as Exhibit B to this ordinance. The future uses of the 4.04 acres zoned SFR are limited to right-of-way and utility uses and associated facilities to support such uses.

This ordinance is adopted by the Common Council of the City of Sandy and approved by the Mayor this 15 day of June 2020

Stan Pulliam, Mayor

ATTEST:

Jeff Aprati, City Recorder

#2020-11



Staff Report

Meeting Date: June 15, 2020
From: Mike Walker, Public Works Director
SUBJECT: Changes to Section 15.28 Sandy Municipal Code

Background:

The proposed changes to Section 15.28 of the Municipal Code relating to Systems Development Charges will streamline the way the City adds projects to Capital Improvement Plans and updates these plans to reflect construction cost inflation over time, and allow for credits to be transferred in order to facilitate the construction of public improvements.

Under the existing ordinance, capital plans can only be updated by Council resolution. Under the proposed language plans could be amended by motion or as part of a larger process (such as through the budget or CIP adoption). Currently the Transportation, Sewer and Water SDC methodologies allow use of a recognized construction cost index to update capital project costs. The Parks SDC methodology did not include a provision for indexing construction costs for inflation over time.

These changes will also provide the City with more flexibility in providing SDC credits for oversizing public facilities. Under the current ordinance the City can provide SDC credits for improvements that provide more capacity than required or are beyond the improvements required to mitigate the impacts of a development. Since most developers sell lots and do not build homes or take out building permits, the appeal of SDC credits for oversizing improvements is limited or requires complicated agreements that make the City act as a clearinghouse by collecting SDCs from homebuilders and returning cash to developers. The proposed changes would allow the Council to approve SDC credits that allow credits to accrue directly to developers and have them distribute them out to homebuilders who purchase lots in a development. Other Oregon cities such as Redmond, Tigard, and Hillsboro allow for the transfer of credits as a tool for constructing new capital improvements.

Recommendation:

Staff recommends the City Council adopts Ordinance 2020-14.

Budgetary Impact:

None



NO. 2020-14

AN ORDINANCE AMENDING CHAPTER 15.28 OF THE SANDY MUNICIPAL CODE RELATED TO SYSTEM DEVELOPMENT CHARGES

WHEREAS, the City wishes to amend Chapter 15.28 of the Code: (a) to codify the ability to adjust SDCs annually in accordance with a cost index; (b) to make the process to create, modify and amend improvement plans more closely follow existing Oregon Revised Statutes; (c) to provide greater SDC credits than what may otherwise be due with City Council approval; and (d) to allow for the transfer of SDC credits to another person or development project with the City's prior approval.

NOW, THEREFORE, THE CITY OF SANDY ORDAINS AS FOLLOWS:

Section 1. A new subsection (C) of Section 15.28.040 of the Sandy Municipal Code is added as follows:

C. In accordance with ORS 223.304(8)(b), the City Manager or designee may annually adjust the amounts of the City's system development charges by applying the *ENR Construction Cost Index – Seattle, WA* to account for changes in costs over an identified time period for materials, labor and real property. An adjustment to the City's system development charges under this subsection is not a modification to a system development charge methodology.

Section 2. Section 15.28.080 of the Sandy Municipal Code is deleted and replaced as follows:

15.28.080 Improvement plan. The City shall prepare a capital improvement plan, public facilities plan, master plan or comparable plan that includes a list of the capital improvements that the local government intends to fund, in whole or in part, with revenues from the improvement fee and the estimated cost, timing and percentage of costs eligible to be funded with revenues from the improvement fee for each improvement.

A. The process for modifying or amending the plan shall conform to the requirements in ORS 223.309(2).

Section 3. Section 15.28.130(A) of the Sandy Municipal Code is amended as follows:

A. A person constructing a qualified public improvement as defined herein shall be eligible for a credit against the applicable system development charge for the type of improvement being constructed. Except as the city council may otherwise approve, credit for qualified public improvements defined in subsection 15.28.030(7)(b) may be granted only for the cost of that portion of such improvements that exceeds the City's minimum standard facility size or

#2020-14

capacity needed to serve the particular development project or property. No cash refund shall be made on account of such credit. The applicant for a credit has the burden of demonstrating that a particular improvement qualifies for a credit.

Section 4. Section 15.28.130(B)(1) of the Sandy Municipal Code is deleted and is replaced as follows:

B. 1. Credits may be transferred from one person or development to another with the City's prior written approval.

This ordinance is adopted by the Common Council of the City of Sandy and approved by the Mayor this 15 day of June 2020

Stan Pulliam, Mayor

ATTEST:

Jeff Aprati, City Recorder

#2020-14



Staff Report

Meeting Date: June 15, 2020

From Mike Walker, Public Works Director
Resolution 2020-15 Updating the Transportation Capital

SUBJECT: Improvement Plan

Background:

Approval of Resolution 2020-15 will add two projects from the Transportation System Plan (TSP) to the City's Transportation Capital Improvement Plan (CIP). The extension of Gunderson Road was identified in the TSP but was not included in the Capital Improvement Plan because of its location at the southwest edge of the Urban Growth Boundary. With no nearby development or traffic demand for this improvement when the TSP was adopted in 2012 this project was left out of the Capital Plan and System Development Charge (SDC) calculations. Review of the Bailey Meadows Subdivision identified the need for Gunderson Road in order to provide a second access point to and from the proposed development and reduce trips on Melissa Ave. which was already over capacity. By adding this portion of Gunderson Road (and the required intersection improvements on Hwy 211) to the CIP the City will be able to add the estimated cost of the project (\$3,253,000) to the SDC calculations and provide SDC credits to the developer in exchange for constructing the project.

Olson Street was also identified as a project in the TSP but was not included in the Capital Plan or SDC methodology for reasons similar to Gunderson Road (edge of UGB, limited traffic demand). Olson is shown as a collector street between Jewelberry Ave. and the future extension of 362nd Ave. in the TSP. One of the conditions of approval for the Sandy Woods subdivision was to widen Olson Street to collector street standards, install a landscaped center median and construct a left turn lane at the intersection with Jewelberry. The difference between the required improvements and a local street section is eligible for reimbursement using SDC funds. The estimated reimbursement cost is \$362K. The estimated cost for Olson Street added to the CIP is \$2.5M.

The existing and proposed Transportation CIP list is attached.

Recommendation:

Approve Resolution 2020-15 adding two projects to the Transportation Capital Improvement Plan.

Code Analysis:

N/A

Budgetary Impact:
None

Transportation - Motor Vehicles CIP (Existing)				
Project Number	Description	Cost - Indexed for Inflation	Percent Benefitting New Development	Cost Benefitting New Development - Indexed for Inflation
M-1	362nd Dr. at US 26 Intersection Improvements	\$2,765,101	67%	\$1,852,618
M-2	362nd Dr. at Dubarko - Single Lane Roundabout	\$1,437,570	100%	\$1,437,570
M-3	362nd Dr. from US 26 to Kelso	\$6,506,257	100%	\$6,506,257
M-4	Dubarko Rd., Eastern Terminus to West Vista Loop	\$1,941,136	100%	\$1,941,136
M-5	Bell St. Western Terminus to 362nd	\$5,328,041	100%	\$5,328,041
M-6	OR-211, Bornstedt Rd. to US 26	\$7,651,210	40%	\$3,060,484
M-7	Kate Schmitz, US 26 to Bell	\$2,371,600	100%	\$2,371,600
M-8	Industrial Way, West Terminus to Jarl Rd.	\$5,404,702	100%	\$5,404,702
M-9	US 26 / Ten Eyck Rd: Intersection Improvements	\$1,315,160	91%	\$1,196,796
M-10	Bornstedt Rd Vertical Realignment	\$851,620	15%	\$127,743
M-11	362nd at Industrial Way Intersection Improvement	\$3,665,200	100%	\$3,665,200
M-12	Realign Alt Ave. at Proctor Blvd. (keep signal)	\$2,156,000	30%	\$646,800
M-13	Jacoby at Dubarko Intersection Improvements	\$291,060	100%	\$291,060
M-14	Complete North end of Village Blvd. to OR-211	\$646,800	48%	\$310,464
Total		\$42,331,457		\$34,093,143

Transportation - Motor Vehicles CIP (Proposed)				
Project Number	Description	Cost	Percent Benefitting New Development	Cost Benefitting New Development
M-1	362nd Dr. at US 26 Intersection Improvements	\$2,765,101	67%	\$1,852,618
M-2	362nd Dr. at Dubarko - Single Lane Roundabout	\$1,437,570	100%	\$1,437,570
M-3	362nd Dr. from US 26 to Kelso	\$6,506,257	100%	\$6,506,257
M-4	Dubarko Rd., Eastern Terminus to West Vista Loop	\$1,941,136	100%	\$1,941,136
M-5	Bell St. Western Terminus to 362nd	\$5,328,041	100%	\$5,328,041
M-6	OR-211, Bornstedt Rd. to US 26	\$7,651,210	40%	\$3,060,484
M-7	Kate Schmitz, US 26 to Bell	\$2,371,600	100%	\$2,371,600
M-8	Industrial Way, West Terminus to Jarl Rd.	\$5,404,702	100%	\$5,404,702
M-9	US 26 / Ten Eyck Rd: Intersection Improvements	\$1,315,160	91%	\$1,196,796
M-10	Bornstedt Rd Vertical Realignment	\$851,620	15%	\$127,743
M-11	362nd at Industrial Way Intersection Improvement	\$3,665,200	100%	\$3,665,200
M-12	Realign Alt Ave. at Proctor Blvd. (keep signal)	\$2,156,000	30%	\$646,800
M-13	Jacoby at Dubarko Intersection Improvements	\$291,060	100%	\$291,060
M-14	Complete North end of Village Blvd. to OR-211	\$646,800	48%	\$310,464
M-18	Extend Olson Rd. from 362nd Dr. to Jewelberry Ave.	\$2,500,000	75%	\$1,875,000
M-21	Gunderson Rd. (inside UGB only)	\$3,253,000	100%	\$3,253,000
Total		\$48,084,457		\$39,268,470



NO. 2020-15

A Resolution Adding Gunderson Road and Olson Street to the City's Transportation System Plan Capital Improvement Plan.

WHEREAS, except as provided by ORS 223.304(5)(c), state law requires a capital improvement to be identified on a capital improvement plan ("CIP") in order to be eligible for a system development charge ("SDC") credit;

WHEREAS, local governments may modify a CIP at any time to add a capital improvement to the CIP;

WHEREAS, the City of Sandy wishes to add Gunderson Road and Olson Street, projects identified in its transportation system plan ("TSP"), to its transportation CIP; and

WHEREAS, adding Gunderson Road and Olson Street to the transportation CIP will allow the city to provide an SDC credit or use Transportation SDCs for the construction of all or a portion of Gunderson Road and Olson Street.

NOW, THEREFORE, THE CITY OF SANDY RESOLVES AS FOLLOWS:

Section 1. Gunderson Road, from and including its intersection with Highway 211 to its connection to Melissa Avenue in the Bailey Meadows subdivision and Olson Street between Jewelberry Avenue and the Urban Growth Boundary are added as projects to the City of Sandy's Transportation CIP.

Section 2. The city's TSP identifies Gunderson Road as a minor arterial and Olson Street as a collector. The estimated cost to fully construct Gunderson Road and associated Hwy 211 improvements is \$3.253 million in current dollars. The city estimates that Gunderson Rd. will be fully constructed in the next 20 years and estimates that 100 percent of its costs will be funded with SDC revenues or credits. The City estimates that Olson Street will be constructed in next 20 years and the estimated cost to fully construct Olson Street is \$2.5 million in current dollars and that 75% of its costs will be funded with SDC revenues or credits. These estimates may be revised when the city completes its pending TSP review and update.

Section 3. Adding Gunderson Road and Olson Street to the CIP does not result in an increase to the city's transportation SDC at this time. The city may consider increasing the transportation SDC to account for these projects in the future.

#2020-15

Section 4. This resolution takes effect immediately upon its adoption.

This resolution is adopted by the Common Council of the City of Sandy and approved by the Mayor this 15 day of June 2020

Stan Pulliam, Mayor

ATTEST:

Jeff Aprati, City Recorder

#2020-15



Staff Report

Meeting Date: June 15, 2020
From Emily Meharg, Senior Planner
SUBJECT: 20-010 DCA

Background:

File No. 20-010 DCA amends Chapter 17.78 of the Development Code, which contains the procedures and conditions for annexation. The amendment clarifies annexation criteria and required submittal items and includes additional minor modifications.

I. SUMMARY OF PROPOSED AMENDMENTS

The current Annexation code does not make it clear that properties requesting annexation will need to demonstrate that they can and will develop in a manner consistent with adopted City of Sandy plans such as the Comprehensive Plan, Transportation System Plan, Parks and Trails Master Plan, public facility plans, and other applicable area and master plans. The proposed annexation code amendments more clearly identify annexation criteria and required submittal items. Annexations have both a land use element and political considerations; thus, changes to the annexation code provide an appropriate opportunity to avoid issues with future development, such as occurred with Bailey Meadows. The amendments have been reviewed by legal counsel to be consistent with annexation requirements in Oregon statutes.

II. BACKGROUND AND ADDITIONAL INFORMATION

Since the adoption of Senate Bill 1573 in March of 2016 the City of Sandy has had little ability to require analysis to prove annexation will not negatively affect Sandy and its residents. While the proposed code modifications will have some implications on annexations it will minimize negative impacts on existing and future residents. The proposed requirements to complete some analysis prior to annexation will make the annexation process slightly more expensive but will give the City Council some assurances prior to making a land use decision of this magnitude.

Rest assured that for small annexations under 1 acre the burden of proof for annexation will be reduced. Also, if properties need to annex to connect to city services for something like a failing septic tank or failing drain field this can be accomplished through an annexation agreement with the analysis being deferred prior to development of the property.

Most property owners that decide to annex typically do so in preparation of either development (i.e. subdividing the property, commercial development, etc.) or as part of

a property sale where a developer is trying to secure their entitlements prior to the sale being completed. This means that most property owners who annex property will pay for the master plan analysis through direct payments by the developer or by a reduction in sale price. Either way the master plan analysis is factored into the property value. In cases where a property owner does not have an interested developer the required master plan analysis should assist in selling the property after annexation.

Recommendation:

Staff recommends the City Council approve the proposed code amendments to Chapter 17.78, Annexation.

Code Analysis:

ATTACHMENTS:

- A: Chapter 17.78 Code Modifications
- B: Clean Copy of Proposed Code Changes
- C: Parks Board Comment
- D: Public Comment – Kathleen Walker
- E: Public Comment – Tracy Brown
- F: Public Comment – Fair Housing Council of Oregon
- G: PC staff report
- H: PC PPT presentation

Budgetary Impact:

None

**CHAPTER 17.78
ANNEXATION**

17.78.00 INTENT

The procedures and standards established in this chapter are required for review of proposed annexations in order to:

A. Maximize citizen involvement in the annexation review process by holding a public hearing;

B. Ensure that public facilities are or will be available to serve land annexed to the City;

~~B.C.~~ Establish a system for measuring the physical, environmental, fiscal and related social effects of proposed annexations; and,

~~C.D.~~ Where possible and practical, avoid the creation of irregular boundaries or annexations that create “island,” “cherry stem” or “shoestring” annexations.

17.78.10 PROCEDURAL CONSIDERATIONS

A. The corporate limits of the City shall include all territory encompassed by its boundaries as they now exist or are modified as provided herein unless mandated by State Law.

B. The City may annex an unincorporated area that is surrounded by the City boundary.~~The City may annex an island if it is less than 100 acres and has at least 80 percent of its boundary contiguous to the City; or the land is of any size and has at least 80 percent of its boundary contiguous to the City if the area to be annexed existed as an island before October 20, 1997.~~

C. The City may annex land for public facilities. Public facilities include but are not limited to schools, senior centers, roads, police and fire stations, parks or open space, and public water, sewer and storm drainage facilities.

17.78.15 TYPES OF ANNEXATION

A. Type A: Annexation in conformance with conceptual zoning designation

~~A.B.~~ Type B: Annexation + zone change, including Parks and Open Space (POS) and/or Flood and Slope Hazard (FSH) Overlay District

~~B.C.~~ Type C: Annexation + plan map change + zone change

17.78.20 CONDITIONS FOR ANNEXATION

The following conditions must be met prior to beginning an annexation request:

A. The requirement of Oregon Revised Statutes, Chapters 199 and 222 for initiation of the annexation process are met;

- B. The site must be within the City of Sandy Urban Growth Boundary (UGB);
- C. The site must be contiguous to the city or separated from it only by a public right-of-way or a stream, bay, lake or other body of water; ~~and-~~
- D. The site has not violated Section 17.78.25.

17.78.25 TREE RETENTION

The intent of this section is to treat property with annexation potential (in the UGB) as if it had been subject, prior to annexation, to the tree retention provisions of the City's Urban Forestry Ordinance (Chapter 17.102) and Flood and Slope Hazard (FSH) Overlay District (Chapter 17.60), to discourage property owners from removing trees prior to annexation as a way of avoiding Urban Forestry Ordinance provisions, and to prevent unnecessary tree removal for future subdivision layout. In accordance with ORS 527.722, the State Forester shall provide the City with a copy of the notice or written plan when a forest operation is proposed within the UGB. The City shall review and comment on an individual forest operation and inform the landowner or operator of all other regulations that apply but that do not pertain to activities regulated under the Oregon Forest Practices Act.

- A. Properties shall not be considered for annexation for a minimum of five (5) years if any of the following apply:
 - 1. Where any trees six (6) inches or greater diameter at breast height (DBH) have been removed within 25 feet of the high water level along a perennial stream in the five years prior to the annexation application.
 - 2. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 80 feet of the high water level of Tickle Creek in the five years prior to the annexation application.
 - 3. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 50 feet of the high water level along other perennial streams in the five years prior to the annexation application.
 - 4. Where any trees six (6) inches or greater DBH have been removed on 25 percent or greater slopes in the five years prior to the annexation application.
 - 5. Where more than ten (10) trees (11 inches or greater DBH) per gross acre have been removed in the five years prior to the annexation application, except as provided below:
 - a. Sites under one (1) acre in area shall not remove more than five (5) trees in the five years prior to the annexation application.
 - b. Sites where removal of ten (10) or fewer trees will result in ~~fewer than three (3) trees per gross acre remaining on the site. Tree removal may not result in fewer than three (3) trees per gross acre remaining on the site. At least three (3) healthy,~~

~~non-nuisance trees 11 inches DBH or greater must be retained for every one-acre of contiguous ownership~~ [the site not meeting the minimum tree retention requirements of Chapter 17.102, Urban Forestry.](#)

- c. For properties in or adjacent to the Bornstedt Village Overlay (BVO), tree removal must not result in fewer than six (6) healthy 11 inch DBH or greater trees per acre. For properties in or adjacent to the BVO and within 300 feet of the FSH Overlay District, tree removal must not result in fewer than nine (9) healthy 11 inch DBH or greater trees per acre.

Rounding: Site area shall be rounded to the nearest half acre and allowed tree removal shall be calculated accordingly. For example, a 1.5 acre site will not be allowed to remove more than fifteen (15) trees in the five years prior to the annexation application. A calculation of 1.2 acres is rounded down to one (1) acre and a calculation of 1.8 is rounded up to two (2) acres.

Cumulative Calculation: Total gross acreage includes riparian areas and other sensitive habitat. Trees removed under Sections 17.78.25(A) 2. and 3. shall count towards tree removal under Section 17.78.25(A) 5.

B. Exceptions. The City Council may grant exceptions to this section where:

1. The property owner can demonstrate that Douglas Fir, Western Red Cedar, or other appropriate native trees were planted at a ratio of at least two trees for every one tree removed no less than five years prior to the submission of the annexation application, and at least 50 percent of these trees have remained healthy; or
2. The Council finds that tree removal was necessary due to hazards, or [right-of-way or utility facilities easements](#) or access; or
3. The trees were removed because they were dead, dying, or diseased and their condition as such resulted from an accident or non-human cause, as determined by a certified arborist or other qualified professional; or
4. The trees removed were nuisance trees; or
5. The trees were removed as part of a stream restoration and enhancement program approved by the Oregon Department of Fish and Wildlife as improving riparian function; or
6. The trees removed were orchard trees, Christmas trees, or commercial nursery trees grown for commercial purposes; or
7. The application of this section will create an island of unincorporated area.

17.78.30 ZONING OF ANNEXED AREAS

17.78 - 3

Revised by Ordinance No. 2017-05 (effective 09/06/17)

A. All lands within the urban growth boundary of Sandy have been classified according to the appropriate city land use designation as noted on the comprehensive plan map (as per the city/county urban growth management area agreement). The zoning classification shall reflect the city land use classification as illustrated in Table 17.26.20.

~~B. Where only a single city zoning designation corresponds to the comprehensive plan designation (Type A) and the rezoning decision does not require the exercise of legal or policy judgment on the part of the City Council, amendment of the zoning map shall be a ministerial decision of the Director made without notice or any opportunity for a hearing.~~

17.78.40 EXISTING USE, ACTIVITY OR STRUCTURE

A. As of the effective date of annexation, no use or activity shall be considered non-conforming if the use or activity: (1) violates or conflicts with county zoning regulations and (2) is not classified as non-conforming under county zoning regulations. Any such use or activity shall constitute a violation of this ordinance.

B. Any use, activity or structure that is existing at the effective date of annexation, under a Clackamas County use permit with a time limit imposed, shall not be a non-conforming use, but may continue for the extent of the time limit. Such use permits may not be extended without City approval.

C. Any lot or parcel of land duly recorded in the Clackamas County Recorder's Office prior to the effective date of this Ordinance and having an area, width, depth, or street frontage less than that required in the Zoning District regulations in which such lot or parcel is situated, shall be deemed to be a lot and may be used as a building site, provided that all other regulations for the Zoning District shall apply.

17.78.50 ANNEXATION CRITERIA

Requests for annexation shall not have an adverse impact on the citizens of Sandy, either financially or in relation to the livability of the city or any neighborhoods within the annexation area.

A. Except as provided in subsection B of this section, an application to annex property into the city shall meet the following criteria:

1. The application demonstrates how the property will be served by adequate public facilities and services, including sanitary sewer, domestic water, transportation, internet and parks. Public facilities and services must be provided in a manner consistent with the City's adopted public facility plans, comprehensive plan, transportation system plan, parks and trails master plan, and any applicable area plan or master plan. The application must demonstrate how the public facilities and services will be provided to the property in an orderly, efficient, and timely manner.

~~2. The application demonstrates how impacts to existing City public facilities and services (sewer, water, stormwater, and transportation) from development of the property will be mitigated, if necessary. Mitigation may include construction of on-site or off-site improvements or improvements to existing infrastructure to City standards and~~

specifications. The application must demonstrate adequate funding for the mitigation. If the financing requires City funds, the funding must be approved by the City Council prior to annexation. The City may rely on the standards and criteria of SMC Chapter 17.84 (Improvements Required with Development) and other relevant standards and criteria in the comprehensive plan or development code to analyze an applicant's proposed mitigation of impacts. In order to ensure adequate public facilities and services will exist to serve property annexed to the City, an applicant may be required to enter into an agreement with the City that governs the extent and timing of infrastructure improvements.

3. The application demonstrates that the annexation and proposed zoning is consistent with the Transportation Planning Rule.

3.4. The annexation is in the best interest of the City. Generally, the annexation is in the best interest of the city if it is desirable for the city to annex an area if the annexation meets one or more any of the following criteria:

~~1. A necessary control for development form and standards of an area adjacent to the city; or~~

- a. A needed solution for existing problems, resulting from insufficient sanitation, water service, or other urban service related problems; or
- b. Land for development to meet urban needs and that meets a logical growth pattern of the city and encourages orderly growth; or
- c. Needed routes for utility and transportation networks.

B. The standards described in paragraphs A.1 and A.2 above do not apply to:

1. An application to annex property that is smaller than one acre.

2. An "island" annexation under ORS 222.750

3. An annexation for which the City has executed an annexation agreement.

17.78.60 APPLICATION SUBMISSION REQUIREMENTS

Requests for annexation shall be made on forms provided by the city for such purposes and shall be accompanied by all of the following:

- A. Written consent form to the annexation signed by the owners of all land to be annexed.;
- B. A legal description certified by a registered surveyor or engineer.;
- C. The application fee established by the city.;

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Revised by Ordinance No. 2017-05 (effective 09/06/17)

- D. A list of property owners within ~~three one thousand~~~~hundred~~ (31,000) feet of the subject property ~~on~~~~and two sets of~~ mailing labels.;
- E. Vicinity map showing the area to be annexed including adjacent city territory.;
- F. Site Plan (~~Type A=15 copies; Type B or C = 25 copies~~) drawn to scale (not greater than one inch = fifty feet), indicating:
 1. The location of existing structures (if any);
 2. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed;
 3. ~~Approximate~~ Surveyed location of areas subject to regulation under Chapter 17.60, Flood and Slope Hazard (FSH) Overlay District, including, but not limited to, wetland boundaries, streams, top of bank, buffers, areas of 25 percent or greater slope, restricted development areas, and the FSH analysis area.
- G. Narrative Statement explaining the proposal and addressing:
 1. Availability, capacity and status of existing water, sewer, drainage, transportation, fire, and park ~~and school~~ facilities;
 2. Additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand; and,
 - 2.3. Ability to adhere to adopted City plans including, but not limited to, the Transportation System Plan, Parks and Trails Master Plan, Comprehensive Plan, and Specific Area Plans; and,
 4. Method and source of financing required to provide additional facilities, if any.

H. Transportation Planning Rule findings.

17.78.70 REVIEW PROCEDURE

Type A, B & C

1. Pre-application conference;
2. Submission of completed application;
3. Review by Planning Commission with recommendation to City Council;
4. Review by City Council.;
- 4.5. Approval or Denial by City Council.

17.78.80 EXCEPTIONS

Exceptions may be granted for identified health hazards and for those matters which the City Council determines that the public interest would not be served by undertaking the entire annexation process. The City Council may authorize an exception to any of the requirements of this chapter. An exception shall require a statement of findings that indicates the basis for the exception.

17.78.90 ANNEXATION CONDITIONS

- A. All properties annexed are subject to inclusion within applicable advance financing districts and urban renewal districts.
- B. These conditions apply to all annexed properties regardless of transfers of the ownership of such properties.

DRAFT

**CHAPTER 17.78
ANNEXATION**

17.78.00 INTENT

The procedures and standards established in this chapter are required for review of proposed annexations in order to:

- A. Maximize citizen involvement in the annexation review process by holding a public hearing;
- B. Ensure that public facilities are or will be available to serve land annexed to the City;
- C. Establish a system for measuring the physical, environmental, fiscal and related social effects of proposed annexations; and,
- D. Where possible and practical, avoid the creation of irregular boundaries or annexations that create “island,” “cherry stem” or “shoestring” annexations.

17.78.10 PROCEDURAL CONSIDERATIONS

- A. The corporate limits of the City shall include all territory encompassed by its boundaries as they now exist or are modified as provided herein unless mandated by State Law.
- B. The City may annex an unincorporated area that is surrounded by the City boundary.
- C. The City may annex land for public facilities. Public facilities include but are not limited to schools, senior centers, roads, police and fire stations, parks or open space, and public water, sewer and storm drainage facilities.

17.78.15 TYPES OF ANNEXATION

- A. Type A: Annexation in conformance with conceptual zoning designation
- B. Type B: Annexation + zone change, including Parks and Open Space (POS) and/or Flood and Slope Hazard (FSH) Overlay District
- C. Type C: Annexation + plan map change + zone change

17.78.20 CONDITIONS FOR ANNEXATION

The following conditions must be met prior to beginning an annexation request:

- A. The requirement of Oregon Revised Statutes, Chapters 199 and 222 for initiation of the annexation process are met;
- B. The site must be within the City of Sandy Urban Growth Boundary (UGB);

- C. The site must be contiguous to the city or separated from it only by a public right-of-way or a stream, bay, lake or other body of water; and
- D. The site has not violated Section 17.78.25.

17.78.25 TREE RETENTION

The intent of this section is to treat property with annexation potential (in the UGB) as if it had been subject, prior to annexation, to the tree retention provisions of the City's Urban Forestry Ordinance (Chapter 17.102) and Flood and Slope Hazard (FSH) Overlay District (Chapter 17.60), to discourage property owners from removing trees prior to annexation as a way of avoiding Urban Forestry Ordinance provisions, and to prevent unnecessary tree removal for future subdivision layout. In accordance with ORS 527.722, the State Forester shall provide the City with a copy of the notice or written plan when a forest operation is proposed within the UGB. The City shall review and comment on an individual forest operation and inform the landowner or operator of all other regulations that apply but that do not pertain to activities regulated under the Oregon Forest Practices Act.

- A. Properties shall not be considered for annexation for a minimum of five (5) years if any of the following apply:
 - 1. Where any trees six (6) inches or greater diameter at breast height (DBH) have been removed within 25 feet of the high water level along a perennial stream in the five years prior to the annexation application.
 - 2. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 80 feet of the high water level of Tickle Creek in the five years prior to the annexation application.
 - 3. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 50 feet of the high water level along other perennial streams in the five years prior to the annexation application.
 - 4. Where any trees six (6) inches or greater DBH have been removed on 25 percent or greater slopes in the five years prior to the annexation application.
 - 5. Where more than ten (10) trees (11 inches or greater DBH) per gross acre have been removed in the five years prior to the annexation application, except as provided below:
 - a. Sites under one (1) acre in area shall not remove more than five (5) trees in the five years prior to the annexation application.
 - b. Sites where removal of ten (10) or fewer trees will result in the site not meeting the minimum tree retention requirements of Chapter 17.102, Urban Forestry.
 - c. For properties in or adjacent to the Bornstedt Village Overlay (BVO), tree removal must not result in fewer than six (6) healthy 11 inch DBH or greater trees per acre. For properties in or adjacent to the BVO and within 300 feet of the FSH

Overlay District, tree removal must not result in fewer than nine (9) healthy 11 inch DBH or greater trees per acre.

Rounding: Site area shall be rounded to the nearest half acre and allowed tree removal shall be calculated accordingly. For example, a 1.5 acre site will not be allowed to remove more than fifteen (15) trees in the five years prior to the annexation application. A calculation of 1.2 acres is rounded down to one (1) acre and a calculation of 1.8 is rounded up to two (2) acres.

Cumulative Calculation: Total gross acreage includes riparian areas and other sensitive habitat. Trees removed under Sections 17.78.25(A) 2. and 3. shall count towards tree removal under Section 17.78.25(A) 5.

B. Exceptions. The City Council may grant exceptions to this section where:

1. The property owner can demonstrate that Douglas Fir, Western Red Cedar, or other appropriate native trees were planted at a ratio of at least two trees for every one tree removed no less than five years prior to the submission of the annexation application, and at least 50 percent of these trees have remained healthy; or
2. The Council finds that tree removal was necessary due to hazards, or right-of-way or utility facilities or access; or
3. The trees were removed because they were dead, dying, or diseased and their condition as such resulted from an accident or non-human cause, as determined by a certified arborist or other qualified professional; or
4. The trees removed were nuisance trees; or
5. The trees were removed as part of a stream restoration and enhancement program approved by the Oregon Department of Fish and Wildlife as improving riparian function; or
6. The trees removed were orchard trees, Christmas trees, or commercial nursery trees grown for commercial purposes; or
7. The application of this section will create an island of unincorporated area.

17.78.30 ZONING OF ANNEXED AREAS

- A. All lands within the urban growth boundary of Sandy have been classified according to the appropriate city land use designation as noted on the comprehensive plan map (as per the city/county urban growth management area agreement). The zoning classification shall reflect the city land use classification as illustrated in Table 17.26.20.

17.78.40 EXISTING USE, ACTIVITY OR STRUCTURE

17.78 - 3

Revised by Ordinance No. 2017-05 (effective 09/06/17)

- A. As of the effective date of annexation, no use or activity shall be considered non-conforming if the use or activity: (1) violates or conflicts with county zoning regulations and (2) is not classified as non-conforming under county zoning regulations. Any such use or activity shall constitute a violation of this ordinance.
- B. Any use, activity or structure that is existing at the effective date of annexation, under a Clackamas County use permit with a time limit imposed, shall not be a non-conforming use, but may continue for the extent of the time limit. Such use permits may not be extended without City approval.
- C. Any lot or parcel of land duly recorded in the Clackamas County Recorder's Office prior to the effective date of this Ordinance and having an area, width, depth, or street frontage less than that required in the Zoning District regulations in which such lot or parcel is situated, shall be deemed to be a lot and may be used as a building site, provided that all other regulations for the Zoning District shall apply.

17.78.50 ANNEXATION CRITERIA

Requests for annexation shall not have an adverse impact on the citizens of Sandy, either financially or in relation to the livability of the city or any neighborhoods within the annexation area.

- A. Except as provided in subsection B of this section, an application to annex property into the city shall meet the following criteria:
 - 1. The application demonstrates how the property will be served by adequate public facilities and services, including sanitary sewer, domestic water, transportation, internet and parks. Public facilities and services must be provided in a manner consistent with the City's adopted public facility plans, comprehensive plan, transportation system plan, parks and trails master plan, and any applicable area plan or master plan. The application must demonstrate how the public facilities and services will be provided to the property in an orderly, efficient, and timely manner.
 - 2. The application demonstrates how impacts to existing City public facilities and services (sewer, water, stormwater, and transportation) from development of the property will be mitigated, if necessary. Mitigation may include construction of on-site or off-site improvements or improvements to existing infrastructure to City standards and specifications. The application must demonstrate adequate funding for the mitigation. If the financing requires City funds, the funding must be approved by the City Council prior to annexation. The City may rely on the standards and criteria of SMC Chapter 17.84 (Improvements Required with Development) and other relevant standards and criteria in the comprehensive plan or development code to analyze an applicant's proposed mitigation of impacts. In order to ensure adequate public facilities and services will exist to serve property annexed to the City, an applicant may be required to enter into an agreement with the City that governs the extent and timing of infrastructure improvements.
 - 3. The application demonstrates that the annexation and proposed zoning is consistent with the Transportation Planning Rule.

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Revised by Ordinance No. 2017-05 (effective 09/06/17)

4. The annexation is in the best interest of the City. Generally, the annexation is in the best interest of the city if it meets one or more of the following criteria:
 - a. A needed solution for existing problems, resulting from insufficient sanitation, water service, or other urban service related problems; or
 - b. Land for development to meet urban needs and that meets a logical growth pattern of the city and encourages orderly growth; or
 - c. Needed routes for utility and transportation networks.
- B. The standards described in paragraphs A.1 and A.2 above do not apply to:
 1. An application to annex property that is smaller than one acre.
 2. An “island” annexation under ORS 222.750
 3. An annexation for which the City has executed an annexation agreement.

17.78.60 APPLICATION SUBMISSION REQUIREMENTS

Requests for annexation shall be made on forms provided by the city for such purposes and shall be accompanied by all of the following:

- A. Written consent form to the annexation signed by the owners of all land to be annexed.
- B. A legal description certified by a registered surveyor or engineer.
- C. The application fee established by the city.
- D. A list of property owners within one thousand (1,000) feet of the subject property and two sets of mailing labels.
- E. Vicinity map showing the area to be annexed including adjacent city territory.
- F. Site Plan drawn to scale (not greater than one inch = fifty feet), indicating:
 1. The location of existing structures (if any);
 2. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed;
 3. Surveyed location of areas subject to regulation under Chapter 17.60, Flood and Slope Hazard (FSH) Overlay District, including, but not limited to, wetland boundaries, streams, top of bank, buffers, areas of 25 percent or greater slope, restricted development areas, and the FSH analysis area.
- G. Narrative Statement explaining the proposal and addressing:

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Revised by Ordinance No. 2017-05 (effective 09/06/17)

1. Availability, capacity and status of existing water, sewer, drainage, transportation, fire, and park facilities;
2. Additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;
3. Ability to adhere to adopted City plans including, but not limited to, the Transportation System Plan, Parks and Trails Master Plan, Comprehensive Plan, and Specific Area Plans; and,
4. Method and source of financing required to provide additional facilities, if any.

H. Transportation Planning Rule findings.

17.78.70 REVIEW PROCEDURE

Type A, B & C

1. Pre-application conference;
2. Submission of completed application;
3. Review by Planning Commission with recommendation to City Council;
4. Review by City Council;
5. Approval or Denial by City Council.

17.78.80 EXCEPTIONS

Exceptions may be granted for identified health hazards and for those matters which the City Council determines that the public interest would not be served by undertaking the entire annexation process. The City Council may authorize an exception to any of the requirements of this chapter. An exception shall require a statement of findings that indicates the basis for the exception.

17.78.90 ANNEXATION CONDITIONS

- A. All properties annexed are subject to inclusion within applicable advance financing districts and urban renewal districts.
- B. These conditions apply to all annexed properties regardless of transfers of the ownership of such properties.

6/8/2020

City of Sandy Mail - Note from the Parks Board - Proposed code changes 17.78

EXHIBIT C



Emily Meharg <emeharg@ci.sandy.or.us>

Note from the Parks Board - Proposed code changes 17.78

3 messages

Sarah Richardson <srichardson@ci.sandy.or.us>

Mon, May 18, 2020 at 10:27 AM

To: Emily Meharg <emeharg@ci.sandy.or.us>, Kelly O'Neill <koneill@cityofsandy.com>

Hi Emily and Kelly,

I think I have captured the conversation but I am including the time stamp and link for the discussion during the meeting. They did want to be sure their intent was communicated.

They were not trying to figure out the correct language, but wanted to be sure the intent for the code was clear.

If you have any questions give me a call at my desk - 503-489-2150.

I hope this is helpful - Sarah

Note for code change

17.78.60 G

Would like it to read "Parks and Trails Master Plan".

17.78.50 B in criteria – would like a more clearly spelled out reference to the Parks and Trails Master Plan.

Annexation criteria – if there is a park/trail in the master plan in the annexation area this is the place to say - we will consider annexing it if it will include the park area that is referenced in the Master Plan.

Want to ensure that annexation is compatible with the Parks and Trails and Master Plan. Would like it to be clear that the city has discretion to say "yes or no". Annexation criteria should support that discretion. Concerned that once annexed in, there is no discretion available to the city and this is where the most leverage exists.

Want to be able to implement the parks and trails master plan where it exists within a proposed annexation. Conditions for approval – compatible with the Parks and Trails Master Plan if applicable.

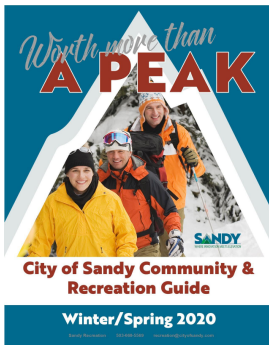
<https://www.youtube.com/watch?v=NbJS3EKtEBs>

Time stamp 38.0-47.50

Sarah Richardson
City of Sandy
Recreation Manager
Direct 503-489-2150
Main 503-668-5569
srichardson@cityofsandy.com

6/8/2020

City of Sandy Mail - Note from the Parks Board - Proposed code changes 17.78



Explore the Recreation Guide. City of Sandy Community & Recreation Guide [CLICK HERE to view the Winter/Spring Community & Recreation Guide](#)

Interested in activities for Older Adults? [Click Here.](#)

[Check out the great programs at the Sandy/Hoodland Library](#)

Emily Meharg <emeharg@ci.sandy.or.us>
To: "Kelly O'Neill Jr." <koneill@ci.sandy.or.us>

Tue, May 19, 2020 at 10:26 AM

I added "parks and trails master plan" specifically to the list in 17.78.50(B) and amended "parks master plan" to "parks and trails master plan" in the list in 17.78.60(G). I'm thinking PC can discuss the rest to see if they want to add anything more but those two edits seemed pretty minor. Sound ok?

[Quoted text hidden]

Kelly O'Neill Jr. <koneill@ci.sandy.or.us>
To: Emily Meharg <emeharg@ci.sandy.or.us>

Tue, May 19, 2020 at 10:38 AM

Sounds good to me.

[Quoted text hidden]

--

Kelly O'Neill Jr.
Development Services Director

City of Sandy
Development Services Department
[39250 Pioneer Blvd](#)
[Sandy, OR 97055](#)
(503) 489-2163
koneill@ci.sandy.or.us

EXHIBIT D

May 27, 2020

Dear Planning Commission and City Staff:

Thank you for revising Sandy's Annexation Code language. We believe that as one of the fastest growing cities in Oregon, that we can, and should, implement strategies to decrease that growth rate. We want this amended code to address the growth issues, including traffic, undersized and outdated infrastructure, and school overcrowding. We know you cannot address school crowding when developments are being approved, but it can be a factor in whether we annex more property into our city for development. We know you cannot stop growth, but your policies and code can make it more discretionary than what we currently have in place. We look fondly back on the days when we could learn more about the proposal and vote on it based on the merits!

Most importantly, we must ensure that we do not allow annexation of property that will lead to the City being responsible for development costs including roads and utilities. The new code should spell out that properties that require development of neighborhood access roads outside City limits can and should be declined. Annexation should only be considered when landowners and developers agree to pay for the development of all infrastructure needed for the development. Oversizing water and sewer infrastructure can apply for SDC credits. The proposal for future SDC credits (beyond the developer's SDC's should not be allowed as it comes at the expense of tax payer road funds!). Developers must agree to road alignments that locate roads on their property, instead of pushing it on to adjacent properties.

Please make sure to reference trails and open space in all park related language. We want to ensure that our Parks and Trails Master Plan and future annexations give us the ability to have sole discretion as is currently spelled out (but legally challenged by Bailey Meadows developers) in 17.86 of our City code. This language appears to do that, but because our Parks and Trails Master Plan amendment has not been adopted as of yet, I would ask that we ensure that the sole discretion language include our ability to make decisions in the next 6-9 months based on draft proposals in our Park Master Plan Amendment.

Please add a requirement that the notice and explanation of proposed annexation be posted in the City newsletter and on the City government facebook (social media site). Annexations affect all residents, not just the ones within 300-1000 feet. Bailey Meadows is a great example of this.

Annexations that propose zone changes are especially problematic because of the amount of analysis to our overall Comprehensive Plan is needed to rejigger the available inventory of different zones. All this takes considerable time (\$\$) by our City planning staff, when they are already overloaded trying to deal with ongoing developments within the city. All this analysis should be paid for by the developers.

Zone change proposals should have to be included in the annexation request or there should be a multi-year period where they cannot request a zone change. Once they are annexed in, they put more pressure on us, where as if we knew what the zone change was to be, we might not have approved annexation in the first place!

The proposed annexation code language is complicated and I have not had the time, nor have other city residents, to understand what is being proposed, what it means to us as residents, and what we want to edit or expand on in the language. The challenge we all face is with the more devious developers that seek to threaten LUBA appeals and lawsuits to exploit loopholes in our language, once they annex in. Perhaps there could be a clause in there that prohibits those actions if they are annexed in. Your language that says they must meet all the plans, does not cite chapter and verse of all the code, TSP standards, ADT standards, etc. so what is to stop Mr. Robinson from challenging us on that once he is annexed in? Deja vu all over again!

I would also say that any annexations should not be allowed to do a planned unit development unless that is spelled out with the annexation proposal. The PD's are so vague and will result in more high density growth, when we already have large areas zoned for medium and high density!

These annexation code changes will help in that vein, in that it will hopefully ensure that annexations are ONLY done when they benefit Sandy residents. I worry about what we are missing. Annexations should only be approved when they can demonstrate that they are responsible developers. agreeing to pay for their development and not stick it to us. They need to agree to follow our existing code while making a reasonable profit and not be asking for numerous variances that only benefit themselves.

I will be providing additional input on the proposed annexation code at the City Council. I am sure other members of the public will also be commenting. Please know that when few if any people come to your planning commission meetings, it is not because they don't care! It is because they don't know about them and about what is being proposed. It takes time and effort to get the word out, educate residents on what is proposed, what is within your decision space and how to make intelligent input on the proposal that can be used. I believe it is better to get the word out early, so that annexations, code changes, zone changes etc and changes to a proposed development are more easily made, than when a staff report is completed, and you all are giving your final blessings. We can and must to better on communication. It is our collective future! Thank you for your considerable volunteer time and hard work to make our city better.

Sincerely,

Kathleen Walker

EXHIBIT E

Date: May 27, 2020
To: Sandy Planning Commission
From: Tracy Brown
Subject: Proposed Amendments to Chapter 17.78, Annexation

I am writing to express my concern with the proposed amendments to Chapter 17.78, Annexation. The City of Sandy has historically had a straight forward and friendly approach to annexing property. The current code allows a property owner to request annexation of their property if the property meets basic criteria, is located within the urban growth boundary, and is contiguous to the city limits.

The proposed amendments represent a significant departure from this approach and if adopted this code is likely to effectively shut down the majority of future annexation requests. In the least, the proposed code will add significant time and expense to the annexation process for the average property owner.

The staff report included with this item provides little analysis to explain the reasons for these changes or does it evaluate the pros and cons of the revisions. In addition, there is no discussion regarding the significant cost burden that these changes will be add to the average annexation application.

Specific Comments

1. Section 17.78.00, Intent is proposed to be amended to add a new subsection B that reads,
B. Ensure that public facilities are or will be available to serve land annexed to the City

Annexation of property is not a request to develop the property but rather a request to change the property's jurisdictional authority, allow residents residing within the annexation area to vote in city elections and pay city taxes. Simply by the fact that a property is located within the city's Urban Growth Boundary a certain level of analysis had already been done to ensure future development potential. Annexation is not the time to require additional analysis to this degree.

2. Section 17.78.25, Tree Retention is proposed to be amended to require a ten year cooling off period rather than five years in the current code before a property owner could request annexation after tree removal. This seems to be subjective and an excessive amount of time. I urge the Commission to reject this change. In addition I also suggest the Commission consider reviewing all existing language in this section as it is already very restrictive.
3. The most troubling and costly amendments are proposed to Section 17.78.50, Annexation Criteria. Subsection 17.78.50(B) as proposed would require all annexation applicant's to demonstrate how the property will be served by sanitary sewer, domestic water, transportation, internet service, and parks. An applicant would also need to demonstrate how the property will be provided with public

facilities and services in an “orderly, efficient, and timely manner”. I submit to you that this is an almost impossible criteria to achieve without hiring a team of consultants to design a complete project and get city approval prior to annexation. The requirements in this section are unrealistic and will be extremely burdensome for most applicant’s. The items in this section are appropriate as part of a development application, not an annexation application. I urge you to reject this change.

4. Section 17.78.50 (C) is even more problematic. This section requires an applicant to demonstrate how impacts to the sewer, water, stormwater and transportation system from development of the property will be mitigated. It also requires an applicant to demonstrate there is adequate funding for the mitigation. The requirements of this criteria are impossible to know until after approval of a subdivision application or other development request. The majority of annexation applicant’s are not aware of what can be done with their property other than they want to bring it into the city. The requirements in this criteria are also very confusing, burdensome, and unnecessary at this stage. If the items in this criteria are a concern I suggest the Planning Commission consider amending subdivision criteria instead. I urge you to reject this change.

Conclusion

As discussed above, the proposed amendments to Chapter 17.78, Annexations represent a significant departure from the city’s current annexation approach. The additional requirements contained in these revisions are likely to add significant time and expense to annexation applications and may effectively shut down future annexation requests. If it is the Commission’s intent to stop properties from annexing, then these changes should be adopted. If on the other hand you are interested in continuing to bring properties located in the urban growth boundary into the city limits as they were intended, than I urge you to reject these changes. I am unclear what the intent of these revisions really are other than possibly an overreaction caused by a recent controversial subdivision application.

I urge you to push the pause button on these changes and to either recommend the Council reject these amendment or to make significant changes to this language prior to forwarding to the Council.



May 22, 2020

City of Sandy Planning Commission
39250 Pioneer Blvd.
Sandy, OR 97055

Re: The proposed amendments to Chapter 17.78, Annexation, more clearly identify annexation criteria and required submittal items. In addition, the amendments increase the annexation waiting period for a property from 5 years to 10 years in the event of significant tree removal. (20-010 DCA)

Dear Commissioners:

This letter is submitted jointly by Housing Land Advocates (HLA) and the Fair Housing Council of Oregon (FHCO). Both HLA and FHCO are non-profit organizations that advocate for land use policies and practices that ensure an adequate and appropriate supply of affordable housing for all Oregonians. FHCO's interests relate to a jurisdiction's obligation to affirmatively further fair housing. Please include these comments in the record for the above-referenced proposed amendment.

As you know, all amendments to the City's Comprehensive Plan and Zoning map must comply with the Statewide Planning Goals. ORS 197.175(2)(a). When a decision is made affecting the residential land supply, the City must refer to its Housing Needs Analysis (HNA) and Buildable Land Inventory (BLI) in order to show that an adequate number of needed housing units (both housing type and affordability level) will be supported by the residential land supply after enactment of the proposed change. Due to the fact that no written findings, including findings for the Statewide Planning Goals, were provided for ZC-06-19 before the Planning Commission meeting, we are obligated to submit a comment letter. The practice of not providing written findings before the Planning Commission meeting not only allows less time for concerned citizens and advocates to review the findings and provide feedback, but it limits our ability to work with planning staff to avoid comment letters due to inadequate Goal 10 findings. This letter also allows us to appeal your decision on the basis of the lack of, or inadequate, findings.



Thank you for your consideration. Please provide written notice of your decision to, FHCO, c/o Louise Dix, at 1221 SW Yamhill Street, #305, Portland, OR 97205 and HLA, c/o Jennifer Bragar, at 121 SW Morrison Street, Suite 1850, Portland, OR 97204. Please feel free to email Louise Dix at ldix@fhco.org or reach her by phone at (541) 951-0667.

Thank you for your consideration.

Louise Dix

Louise Dix
AFFH Specialist
Fair Housing Council of Oregon

/s/ Jennifer Bragar

Jennifer Bragar
President
Housing Land Advocates

cc: Kevin Young (kevin.young@state.or.us)



Staff Report

Meeting Date: May 27, 2020

From Emily Meharg, Senior Planner

SUBJECT: 20-010 DCA Chapter 17.78 Annexation Code Amendments

Background:

File No. 20-010 DCA amends Chapter 17.78 of the Development Code, which contains the procedures and conditions for annexation. The amendment clarifies annexation criteria and required submittal items and includes additional minor modifications. The Commission's role in this process is to review the proposed code amendments and forward a recommendation to the City Council.

Summary

The current Annexation code does not make it clear that properties requesting annexation will need to demonstrate that they can and will develop in a manner consistent with adopted City of Sandy plans such as the Comprehensive Plan, Transportation System Plan, Parks and Trails Master Plan, public facility plans, and other applicable area and master plans. The proposed amendments more clearly identify annexation criteria and required submittal items. The amendments have been reviewed by legal counsel. In addition, the amendments increase the annexation waiting period for a property from a minimum of 5 years to a minimum of 10 years in the event of significant tree removal.

Recommendation:

Staff recommends the Planning Commission hold a public hearing to take testimony regarding modifications to Chapter 17.78 and forward a recommendation of approval to the City Council.

Code Analysis:

See attached:

- Draft code changes
- Comments from Parks and Trails Advisory Board

Budgetary Impact:

None

CHAPTER 17.78 ANNEXATION

17.78.00 INTENT

The procedures and standards established in this chapter are required for review of proposed annexations in order to:

A. Maximize citizen involvement in the annexation review process by holding a public hearing;

B. Ensure that public facilities are or will be available to serve land annexed to the City;

~~B.C.~~ Establish a system for measuring the physical, environmental, fiscal and related social effects of proposed annexations; and,

~~C.D.~~ Where possible and practical, avoid the creation of irregular boundaries or annexations that create “island,” “cherry stem” or “shoestring” annexations.

17.78.10 PROCEDURAL CONSIDERATIONS

A. The corporate limits of the City shall include all territory encompassed by its boundaries as they now exist or are modified as provided herein unless mandated by State Law.

B. The City may annex an unincorporated area that is surrounded by the City boundary. ~~The City may annex an island if it is less than 100 acres and has at least 80 percent of its boundary contiguous to the City; or the land is of any size and has at least 80 percent of its boundary contiguous to the City if the area to be annexed existed as an island before October 20, 1997.~~

C. The City may annex land for public facilities. Public facilities include but are not limited to schools, senior centers, roads, police and fire stations, parks or open space, and public water, sewer and storm drainage facilities.

17.78.15 TYPES OF ANNEXATION

A. Type A: Annexation in conformance with conceptual zoning designation

~~A.B.~~ Type B: Annexation + zone change, including Parks and Open Space (POS) and/or Flood and Slope Hazard (FSH) Overlay District

~~B.C.~~ Type C: Annexation + plan map change + zone change

17.78.20 CONDITIONS FOR ANNEXATION

The following conditions must be met prior to beginning an annexation request:

A. The requirement of Oregon Revised Statutes, Chapters 199 and 222 for initiation of the annexation process are met;

- B. The site must be within the City of Sandy Urban Growth Boundary (UGB);
- C. The site must be contiguous to the city or separated from it only by a public right-of-way or a stream, bay, lake or other body of water; ~~and-~~
- D. The site has not violated Section 17.78.25.

17.78.25 TREE RETENTION

The intent of this section is to treat property with annexation potential (in the UGB) as if it had been subject, prior to annexation, to the tree retention provisions of the City's Urban Forestry Ordinance (Chapter 17.102) and Flood and Slope Hazard (FSH) Overlay District (Chapter 17.60), to discourage property owners from removing trees prior to annexation as a way of avoiding Urban Forestry Ordinance provisions, and to prevent unnecessary tree removal for future subdivision layout. In accordance with ORS 527.722, the State Forester shall provide the City with a copy of the notice or written plan when a forest operation is proposed within the UGB. The City shall review and comment on an individual forest operation and inform the landowner or operator of all other regulations that apply but that do not pertain to activities regulated under the Oregon Forest Practices Act.

- A. Properties shall not be considered for annexation for a minimum of ~~five-ten~~ (105) years if any of the following apply:
 - 1. Where any trees six (6) inches or greater diameter at breast height (DBH) have been removed within 25 feet of the high water level along a perennial stream in the ~~five-ten~~ years prior to the annexation application.
 - 2. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 80 feet of the high water level of Tickle Creek in the ~~five-ten~~ years prior to the annexation application.
 - 3. Where more than two (2) trees (six (6) inches or greater DBH) per 500 linear feet have been removed in the area between 25 feet and 50 feet of the high water level along other perennial streams in the ~~five-ten~~ years prior to the annexation application.
 - 4. Where any trees six (6) inches or greater DBH have been removed on 25 percent or greater slopes in the ~~five-ten~~ years prior to the annexation application.
 - 5. Where more than ten (10) trees (11 inches or greater DBH) per gross acre have been removed in the ~~five-ten~~ years prior to the annexation application, except as provided below:
 - a. Sites under one (1) acre in area shall not remove more than five (5) trees in the ~~five-ten~~ years prior to the annexation application.
 - b. Sites where removal of ten (10) or fewer trees will result in ~~fewer than three (3) trees per gross acre remaining on the site. Tree removal may not result in fewer~~

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Revised by Ordinance No. 2017-05 (effective 09/06/17)

~~than three (3) trees per gross acre remaining on the site. At least three (3) healthy, non-nuisance trees 11 inches DBH or greater must be retained for every one-acre of contiguous ownership~~ [the site not meeting the minimum tree retention requirements of Chapter 17.102, Urban Forestry.](#)

- c. For properties in or adjacent to the Bornstedt Village Overlay (BVO), tree removal must not result in fewer than six (6) healthy 11 inch DBH or greater trees per acre. For properties in or adjacent to the BVO and within 300 feet of the FSH Overlay District, tree removal must not result in fewer than nine (9) healthy 11 inch DBH or greater trees per acre.

Rounding: Site area shall be rounded to the nearest half acre and allowed tree removal shall be calculated accordingly. For example, a 1.5 acre site will not be allowed to remove more than fifteen (15) trees in the ~~five-ten~~ years prior to the annexation application. A calculation of 1.2 acres is rounded down to one (1) acre and a calculation of 1.8 is rounded up to two (2) acres.

Cumulative Calculation: Total gross acreage includes riparian areas and other sensitive habitat. Trees removed under Sections 17.78.25(A) 2. and 3. shall count towards tree removal under Section 17.78.25(A) 5.

B. Exceptions. The City Council may grant exceptions to this section where:

1. The property owner can demonstrate that Douglas Fir, Western Red Cedar, or other appropriate native trees were planted at a ratio of at least two trees for every one tree removed no less than ~~five-ten~~ years prior to the submission of the annexation application, and at least 50 percent of these trees have remained healthy; or
2. The Council finds that tree removal was necessary due to hazards, or [right-of-way or utility facilities easements](#) or access; or
3. The trees were removed because they were dead, dying, or diseased and their condition as such resulted from an accident or non-human cause, as determined by a certified arborist or other qualified professional; or
4. The trees removed were nuisance trees; or
5. The trees were removed as part of a stream restoration and enhancement program approved by the Oregon Department of Fish and Wildlife as improving riparian function; or
6. The trees removed were orchard trees, Christmas trees, or commercial nursery trees grown for commercial purposes; or
7. The application of this section will create an island of unincorporated area.

17.78.30 ZONING OF ANNEXED AREAS

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Revised by Ordinance No. 2017-05 (effective 09/06/17)

A. All lands within the urban growth boundary of Sandy have been classified according to the appropriate city land use designation as noted on the comprehensive plan map (as per the city/county urban growth management area agreement). The zoning classification shall reflect the city land use classification as illustrated in Table 17.26.20.

~~B. Where only a single city zoning designation corresponds to the comprehensive plan designation (Type A) and the rezoning decision does not require the exercise of legal or policy judgment on the part of the City Council, amendment of the zoning map shall be a ministerial decision of the Director made without notice or any opportunity for a hearing.~~

17.78.40 EXISTING USE, ACTIVITY OR STRUCTURE

A. As of the effective date of annexation, no use or activity shall be considered non-conforming if the use or activity: (1) violates or conflicts with county zoning regulations and (2) is not classified as non-conforming under county zoning regulations. Any such use or activity shall constitute a violation of this ordinance.

B. Any use, activity or structure that is existing at the effective date of annexation, under a Clackamas County use permit with a time limit imposed, shall not be a non-conforming use, but may continue for the extent of the time limit. Such use permits may not be extended without City approval.

C. Any lot or parcel of land duly recorded in the Clackamas County Recorder's Office prior to the effective date of this Ordinance and having an area, width, depth, or street frontage less than that required in the Zoning District regulations in which such lot or parcel is situated, shall be deemed to be a lot and may be used as a building site, provided that all other regulations for the Zoning District shall apply.

17.78.50 ANNEXATION CRITERIA

~~Requests for annexation shall not have an adverse impact on the citizens of Sandy, either financially or in relation to the livability of the city or any neighborhoods within the annexation area. To demonstrate this, annexation requests~~ An application to annex property into the city shall meet the following criteria:

A. The annexation shall not have an adverse impact on the citizens of Sandy, either financially or in relation to the livability of the city or any neighborhoods within the annexation area.

~~A.B.~~ The application demonstrates how the property will be served by adequate public facilities and services, including sanitary sewer, domestic water, transportation, internet and parks. Public facilities and services must be provided in a manner consistent with the City's adopted public facility plans, comprehensive plan, transportation system plan, parks and trails master plan, and any applicable area plan or master plan. The application must demonstrate how the public facilities and services will be provided to the property in an orderly, efficient, and timely manner.

~~C.~~ The application demonstrates how impacts to existing City public facilities and services (sewer, water, stormwater, and transportation) from development of the property will be

mitigated. Mitigation may include construction of on-site or off-site improvements or improvements to existing infrastructure to City standards and specifications. The application must demonstrate adequate funding for the mitigation. If the financing requires City funds, the funding must be approved by the City Council prior to annexation. The City may rely on the standards and criteria of SMC Chapter 17.84 (Improvements Required with Development) and other relevant standards and criteria in the comprehensive plan or development code to analyze an applicant's proposed mitigation of impacts. In order to ensure adequate public facilities and services will exist to serve property annexed to the City, an applicant may be required to enter into an agreement with the City that governs the extent and timing of infrastructure improvements.

D. The application demonstrates that the annexation and proposed zoning is consistent with the Transportation Planning Rule.

~~D.E.~~ The annexation is in the best interest of the City. Generally, the annexation is in the best interest of the city if it is desirable for the city to annex an area if the annexation meets one or more any of the following criteria:

- ~~1. A necessary control for development form and standards of an area adjacent to the city;~~
or
- 2.1. A needed solution for existing problems, resulting from insufficient sanitation, water service, or other urban service related problems; or
- 3.2. Land for development to meet urban needs and that meets a logical growth pattern of the city and encourages orderly growth; or
- 4.3. Needed routes for utility and transportation networks.

17.78.60 APPLICATION SUBMISSION REQUIREMENTS

Requests for annexation shall be made on forms provided by the city for such purposes and shall be accompanied by all of the following:

- A. Written consent form to the annexation signed by the owners of all land to be annexed.;
- B. A legal description certified by a registered surveyor or engineer.;
- C. The application fee established by the city.;
- D. A list of property owners within ~~three one thousand~~ hundred (31,000) feet of the subject property ~~on and two sets of~~ mailing labels.;
- E. Vicinity map showing the area to be annexed including adjacent city territory.;
- F. Site Plan (~~Type A=15 copies; Type B or C = 25 copies~~) drawn to scale (not greater than one inch = fifty feet), indicating:
 1. The location of existing structures (if any);

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Revised by Ordinance No. 2017-05 (effective 09/06/17)

2. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed;
3. ~~Approximate~~ Surveyed location of areas subject to regulation under Chapter 17.60, Flood and Slope Hazard (FSH) Overlay District, including, but not limited to, wetland boundaries, streams, top of bank, buffers, areas of 25 percent or greater slope, restricted development areas, and the FSH analysis area.

G. Narrative Statement explaining the proposal and addressing:

1. Availability, capacity and status of existing water, sewer, drainage, transportation, fire, and park ~~and school~~ facilities;
2. Additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand; and,
- 2.3. Ability to adhere to adopted City plans including, but not limited to, the Transportation System Plan, Parks and Trails Master Plan, Comprehensive Plan, and Specific Area Plans; and,
4. Method and source of financing required to provide additional facilities, if any.

H. Transportation Planning Rule findings.

17.78.70 REVIEW PROCEDURE

Type A, B & C

1. Pre-application conference;
2. Submission of completed application;
3. Review by Planning Commission with recommendation to City Council;
4. Review by City Council;
- 4.5. Approval or Denial by City Council.

17.78.80 EXCEPTIONS

Exceptions may be granted for identified health hazards and for those matters which the City Council determines that the public interest would not be served by undertaking the entire annexation process. The City Council may authorize an exception to any of the requirements of this chapter. An exception shall require a statement of findings that indicates the basis for the exception.

17.78.90 ANNEXATION CONDITIONS

- A. All properties annexed are subject to inclusion within applicable advance financing districts and urban renewal districts.
- B. These conditions apply to all annexed properties regardless of transfers of the ownership of such properties.



Emily Meharg <emeharg@ci.sandy.or.us>

Note from the Parks Board - Proposed code changes 17.78

Sarah Richardson <srichardson@ci.sandy.or.us>

Mon, May 18, 2020 at 10:27 AM

To: Emily Meharg <emeharg@ci.sandy.or.us>, Kelly O'Neill <koneill@cityofsandy.com>

Hi Emily and Kelly,

I think I have captured the conversation but I am including the time stamp and link for the discussion during the meeting. They did want to be sure their intent was communicated.

They were not trying to figure out the correct language, but wanted to be sure the intent for the code was clear.

If you have any questions give me a call at my desk - 503-489-2150.

I hope this is helpful - Sarah

Note for code change

17.78.60 G

Would like it to read "Parks and Trails Master Plan".

17.78.50 B in criteria – would like a more clearly spelled out reference to the Parks and Trails Master Plan.

Annexation criteria – if there is a park/trail in the master plan in the annexation area this is the place to say - we will consider annexing it if it will include the park area that is referenced in the Master Plan.

Want to ensure that annexation is compatible with the Parks and Trails and Master Plan. Would like it to be clear that the city has discretion to say "yes or no". Annexation criteria should support that discretion. Concerned that once annexed in, there is no discretion available to the city and this is where the most leverage exists.

Want to be able to implement the parks and trails master plan where it exists within a proposed annexation. Conditions for approval – compatible with the Parks and Trails Master Plan if applicable.

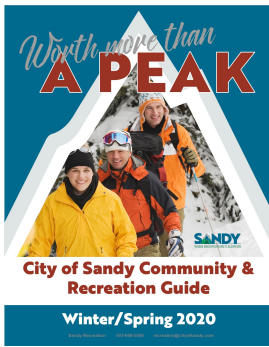
<https://www.youtube.com/watch?v=NbJS3EKtEBs>

Time stamp 38.0-47.50

Sarah Richardson
City of Sandy
Recreation Manager
Direct 503-489-2150
Main 503-668-5569
srichardson@cityofsandy.com

5/18/2020

City of Sandy Mail - Note from the Parks Board - Proposed code changes 17.78



Explore the Recreation Guide. City of Sandy Community & Recreation Guide [CLICK HERE to view the Winter/Spring Community & Recreation Guide](#)

Interested in activities for Older Adults? [Click Here.](#)

Check out the great programs at the Sandy/Hoodland Library



May 22, 2020

City of Sandy Planning Commission
39250 Pioneer Blvd.
Sandy, OR 97055

Re: The proposed amendments to Chapter 17.78, Annexation, more clearly identify annexation criteria and required submittal items. In addition, the amendments increase the annexation waiting period for a property from 5 years to 10 years in the event of significant tree removal. (20-010 DCA)

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Thank you for your consideration.

Louise Dix

Louise Dix
AFFH Specialist
Fair Housing Council of Oregon

/s/ Jennifer Bragar

Jennifer Bragar
President
Housing Land Advocates

cc: Kevin Young (kevin.young@state.or.us)

Date: May 27, 2020
To: Sandy Planning Commission
From: Tracy Brown
Subject: Proposed Amendments to Chapter 17.78, Annexation

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Conclusion

As discussed above, the proposed amendments to Chapter 17.78, Annexations represent a significant departure from the city’s current annexation approach. The additional requirements contained in these revisions are likely to add significant time and expense to annexation applications and may effectively shut down future annexation requests. If it is the Commission’s intent to stop properties from annexing, then these changes should be adopted. If on the other hand you are interested in continuing to bring properties located in the urban growth boundary into the city limits as they were intended, than I urge you to reject these changes. I am unclear what the intent of these revisions really are other than possibly an overreaction caused by a recent controversial subdivision application.

I urge you to push the pause button on these changes and to either recommend the Council reject these amendment or to make significant changes to this language prior to forwarding to the Council.

Chapter 17.78 Annexation Code Modifications

PC Meeting 5/27/2020

Chapter 17.78 Annexation - Proposal

- Clarify annexation criteria regarding public facilities and services.
- Clarify submission requirements regarding compliance with City plans, Transportation Planning Rule findings, and FSH mapping.
- Clarify annexation type for POS and/or FSH zone changes.
- Increase noticing distance to 1,000 feet.
- Increase annexation waiting period to 10 years for properties with significant tree removal.



NO. 2020-13

AN ORDINANCE AMENDING CHAPTER 17.78 OF THE SANDY MUNICIPAL CODE RELATED TO ANNEXATIONS.

Whereas, the Sandy Municipal Code (SMC), Chapter 17.78, Annexation, contains procedures and standards for the review of proposed annexations to the City;

Whereas, SMC Section 17.78.50 contains the review criteria for a proposed annexation and Section 17.78.60 contains application requirements;

Whereas, the City Council has determined it is necessary to revise SMC Chapter 17.78 to more clearly identify annexation criteria and required submittal items, and to make related administrative updates and revisions to the chapter;

Whereas, the City Council has determined that the amendments to SMC Chapter 17.78 as set forth below are in the best interest of the City and its residents.

NOW, THEREFORE, THE CITY OF SANDY ORDAINS AS FOLLOWS,

Section 1: Chapter 17.78 of the Sandy Municipal Code is amended as shown in Exhibit A.

Section 2: In support of this ordinance, the City Council adopts the findings and conclusions attached as Exhibit B.

Section 3: All remaining provisions of the Sandy Comprehensive Plan and Title 17 of the Sandy Municipal Code are reaffirmed in their entirety.

This ordinance is adopted by the Common Council of the City of Sandy and approved by the Mayor this 15 day of June 2020

Stan Pulliam, Mayor

#2020-13

ATTEST:

Jeff Aprati, City Recorder

#2020-13

Exhibit B
Ordinance No. 2020-13

1. Goal 1 – Citizen Involvement. Both the Planning Commission and the City Council held a public hearing prior to adopting the ordinance. The Commission held a public hearing on May 27, 2020. The Council held a public hearing on June 15, 2020. The City provided notice of the public hearings in accordance with state law and the City’s development code. The annexation code (Section 17.78.00, Intent, and Section 17.78.70, Review Procedure) specifies that two public hearings are required for all annexation applications to maximize citizen involvement in the annexation review process. Goal 1 is satisfied.
2. Goal 2 – Land Use Planning. Goal 2 requires the ordinance to be coordinated with other governmental entities and to be supported by an adequate factual base. The City provided notice of the proposed ordinance to Clackamas County on May 1, 2020 and provided 35-day notice to the State of Oregon on April 22, 2020. Goal 2 is satisfied.
3. Goal 3 – Agricultural Lands. Goal 3 does not apply to the decision.
4. Goal 4 – Forest Lands. Goal 4 requires the City to “conserve forest lands by maintaining the forest land base and to protect the state’s forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.” Section 17.78.25, Tree Retention, addresses tree retention on properties outside the City of Sandy limits but within the Urban Growth Boundary (UGB). In the past, property owners have clear-cut their forested land in anticipation of annexing and subdividing. Goal 4 is satisfied.
5. Goal 5 – Natural Resources, Scenic and Historic Areas, and Open Spaces. Goal 5 requires the City to “protect natural resources and conserve scenic and historic areas and open spaces.” Riparian areas and fish and wildlife habitat are listed as protected Goal 5 resources. Limiting tree removal helps protect natural resources. Goal 5 is satisfied.
6. Goal 6 – Air, Water and Land Resources Quality. Goal 6 requires the city to “maintain and improve the quality of the air, water and land resources of the state.” Limiting tree removal in riparian areas helps maintain water quality. Tree retention in general helps maintain both air and soil quality. Goal 6 is satisfied to the extent it applies to the decision.
7. Goal 7 – Areas Subject to Natural Hazards. Goal 7 requires the City to “protect people and property from natural hazards.” Section 17.78.25, Tree Retention, limits tree removal on steep slopes (slopes 25 percent or greater) prior to annexation. Limiting tree removal on steep slopes helps prevent erosion and landslides. Goal 7 is satisfied to the extent it applies to the decision.
8. Goal 8 – Recreational Needs. No resorts are contemplated or authorized by this decision. The City’s comprehensive plan, parks master plan, and development regulations governing recreational needs (e.g. park dedication/fee in-lieu-of requirements, open space provisions, etc.) are not affected by the decision. Goal 8 is satisfied to the extent it applies to the decision.

9. Goal 9 – Economic Development. The City has adopted an economic opportunities analysis (“EOA”) as Goal 9 requires. The EOA includes in its analysis all properties within the City’s urban growth boundary, including unincorporated property. Nothing in this text amendment affects any aspect of the EOA. Therefore, Goal 9 is satisfied.
10. Goal 10 – Housing. The City has an adopted buildable lands inventory and housing needs analysis. Those studies include all properties within the City’s urban growth boundary, including unincorporated property. Nothing in this text amendment affects any aspect of those studies. Therefore, Goal 10 is satisfied.
11. Goal 11 – Public Facilities and Services. The City has an existing public facilities plan that includes all properties within the City’s urban growth boundary, including islands of unincorporated property. The plan assumes that the City is serving islands of unincorporated property and only properties contiguous to the City will be allowed to annex. The amendments will clarify annexation criteria with respect to public facilities and services requirements. Therefore, this text amendment will not undermine or contradict any aspect of the existing public facilities plan. Goal 11 is satisfied.
12. Goal 12 – Transportation. The decision does not affect the City’s comprehensive plan with respect to Goal 12, or its transportation system plan or the standards governing transportation and transportation-related facilities. The City’s comprehensive plan includes an acknowledged Goal 12 element that contains policies to ensure sufficient and adequate transportation facilities and services are available (or will be available as appropriate) to serve lands within the UGB. The City’s existing TSP anticipates and accounts for the potential development of all land inside the UGB in its analysis. This Ordinance does not affect either the Goal 12 element or the TSP. Moreover, the transportation planning rule is triggered only when a post-acknowledgment amendment “significantly affects” a transportation facility. The amendments will clarify annexation criteria and application submittal requirements related to transportation and the Transportation Planning Rule. The ordinance does not meet the definition of a “significant effect” pursuant to OAR 660-012-0060(1)(a)-(c) because it will not: (1) change the functional classification of an existing or future facility; (2) change the standards implementing the functional classification system; or (3) result in any of the effects listed in 0060(1)(c)(A)-(C). Therefore, Goal 12 is satisfied for the purposes of this decision.
13. Goal 13 – Energy Conservation. The City’s comprehensive plan with respect to Goal 13 and its standards governing energy conservation are not affected by the decision. Goal 13 is satisfied.
14. Goal 14 – Urbanization. The decision does not analyze or expand the City’s urban growth boundary. Goal 14 is not applicable.