

# James Street Multimodal Feasibility Study

## Orchard Drive to Kellogg Road (ES-0549)

### Study Conclusions & Preferred Alternative

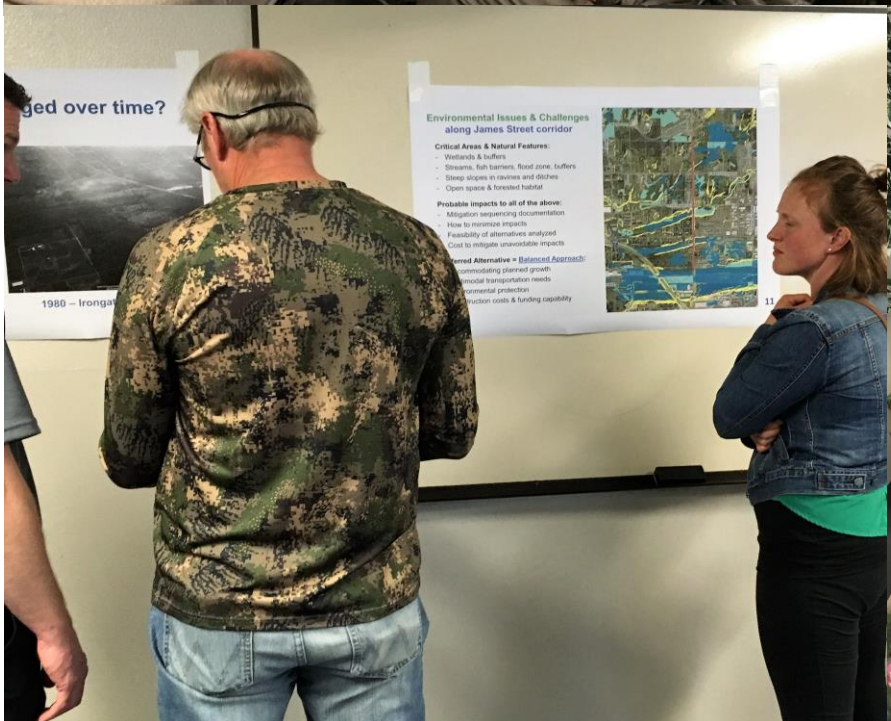
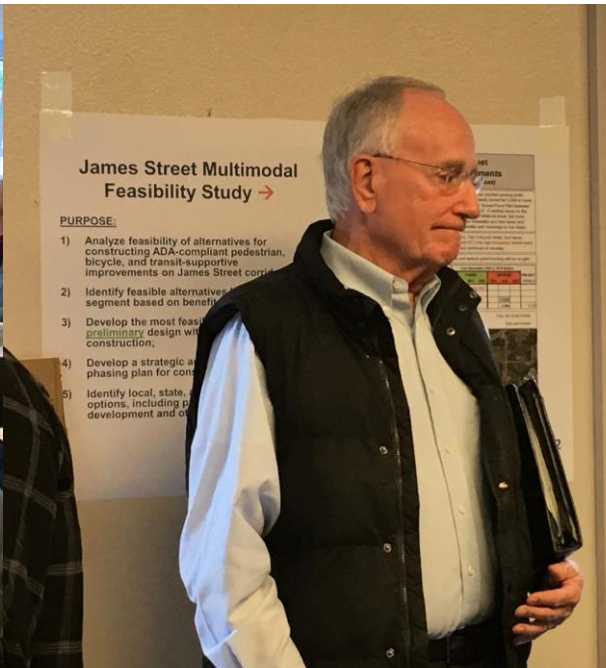
King Mountain Neighborhood Association - October 28, 2019















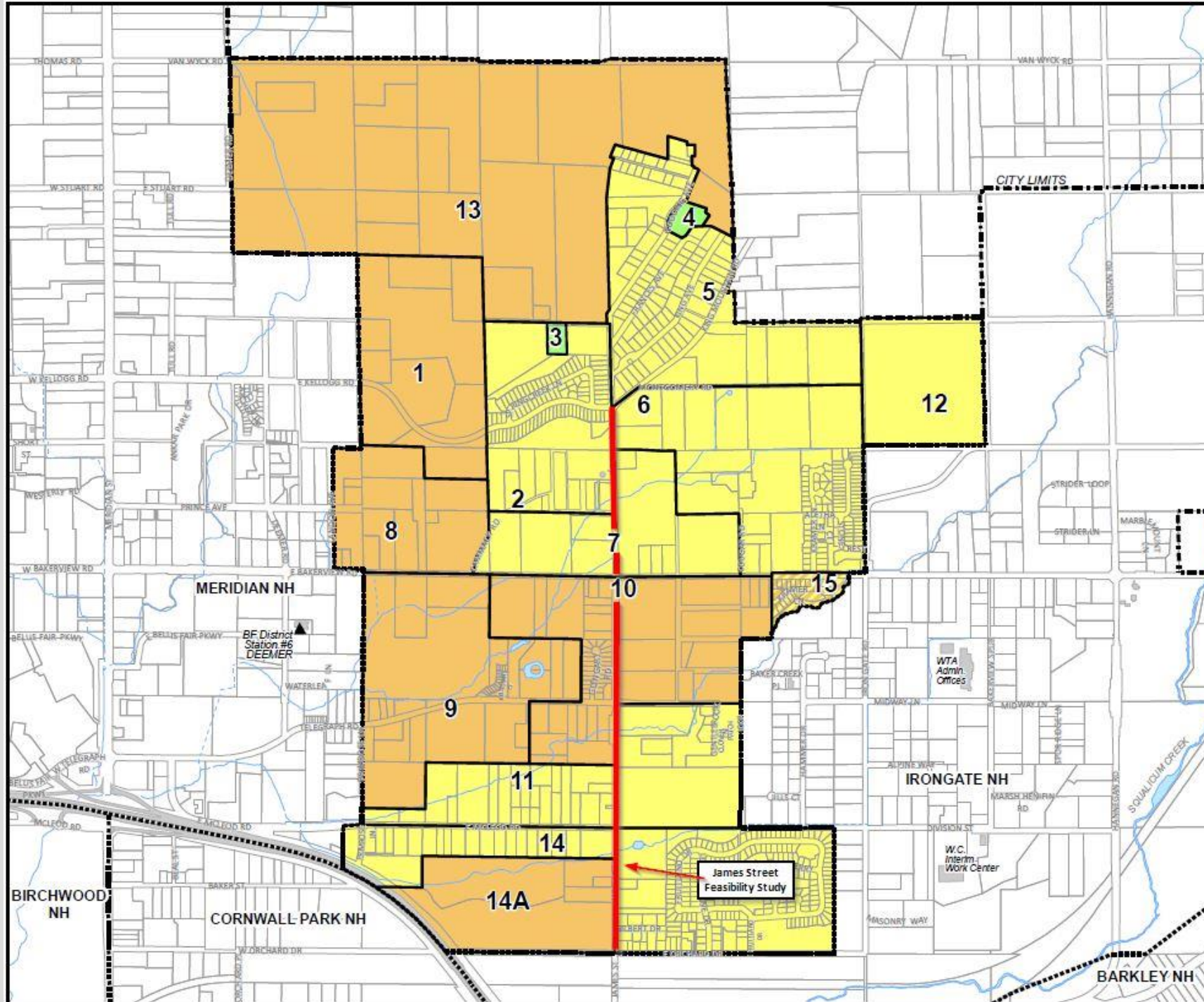


# KING MOUNTAIN NEIGHBORHOOD ZONING

## AREA ZONING DESIGNATION\*

- |     |                                  |
|-----|----------------------------------|
| 1   | Residential Multi, Planned       |
| 2   | Residential Single               |
| 3   | Public, Park                     |
| 4   | Public, Park                     |
| 5   | Residential Single               |
| 6   | Residential Single               |
| 7   | Residential Single               |
| 8   | Residential Multi, Planned       |
| 9   | Residential Multi, Planned       |
| 10  | Residential Multi, Planned       |
| 11  | Residential Single               |
| 12  | Residential Single               |
| 13  | Residential Multi, Planned       |
| 14  | Residential Single               |
| 14A | Residential Multi, Mixed/Planned |
| 15  | Res Single/Res Multi, Planned    |

\*SEE BELLINGHAM MUNICIPAL CODE TITLE 20  
TABLE OF ZONING REGULATIONS FOR  
MODIFICATIONS IN THE LIST OF PERMITTED  
USES AND OTHER SPECIAL PROVISIONS  
FOR EACH NUMBERED AREA



0 800 1600 2400  
Feet

City of Bellingham  
Planning Department  
2011





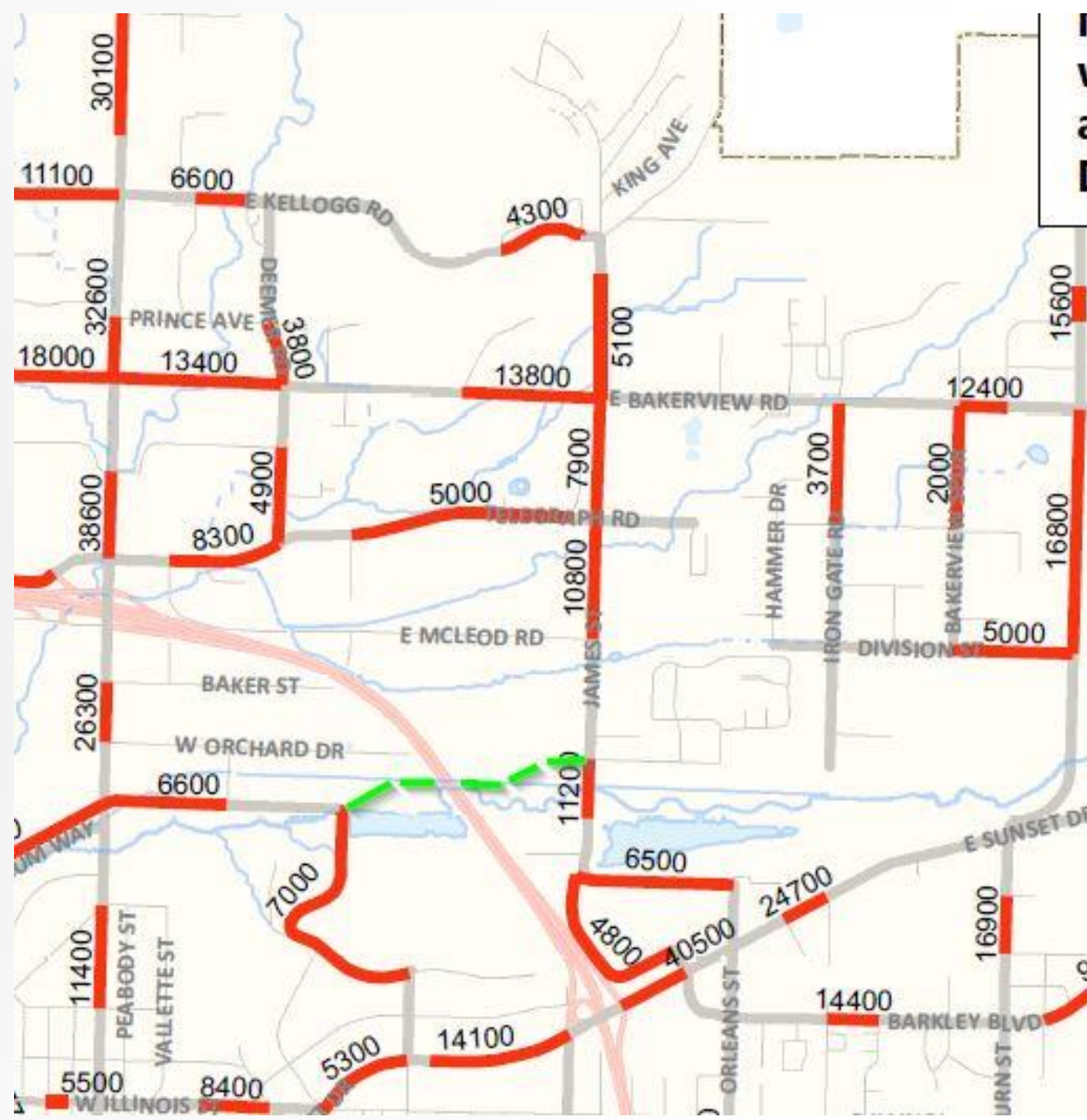
# Existing and Future Traffic Volumes

## James Street corridor 2018 Traffic Volumes:

- Orchard – Telegraph: 11,000 ADT
- Telegraph – Bakerview: 8,000 ADT
- Bakerview – Kellogg: 5,100 ADT

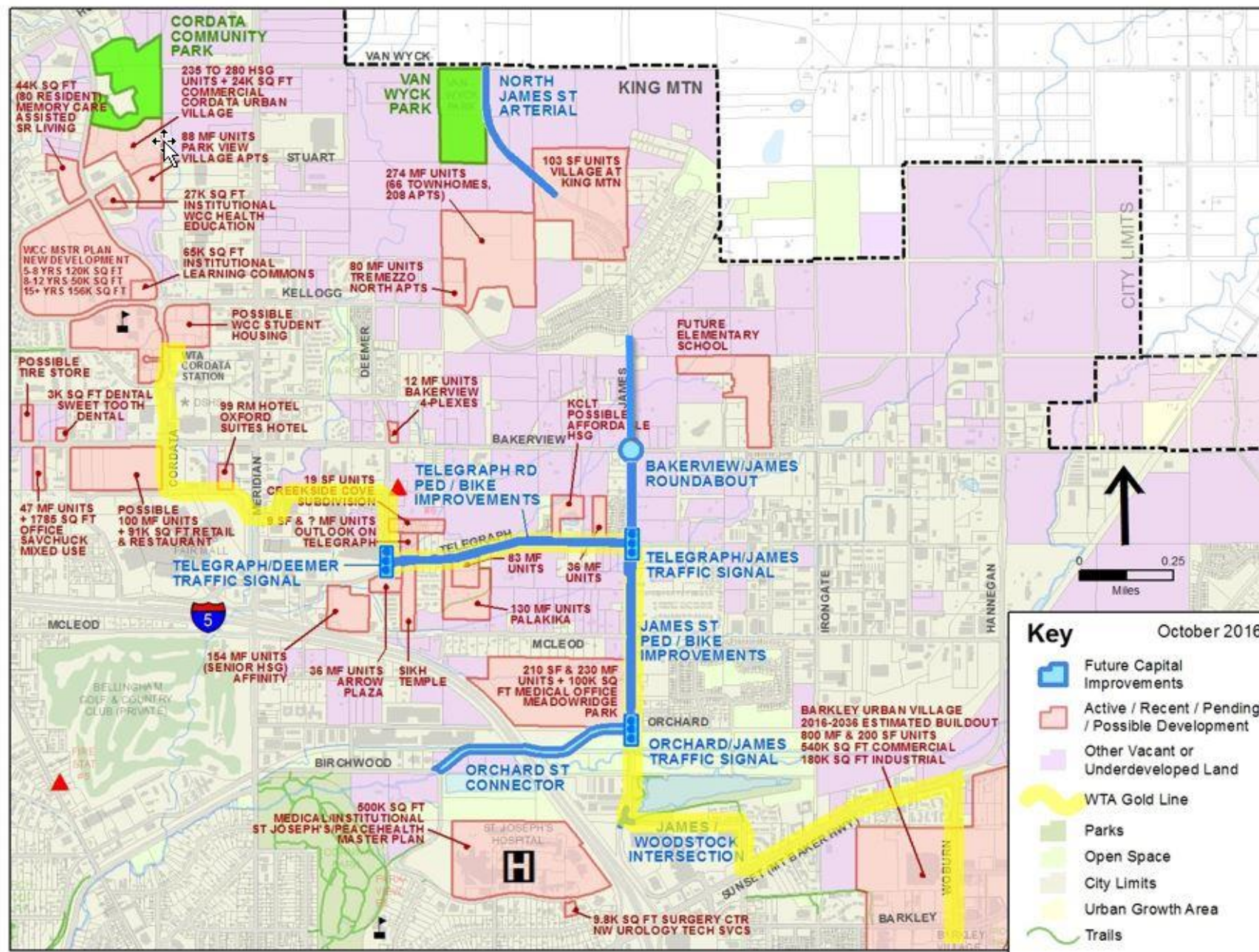
## Near Future Considerations:

- When **Orchard – Birchwood Connector** → is opened to public in **2020**, traffic will increase on James Street
- More development in King Mountain Neighborhood will create more traffic





- 1,000+ acres
- Annexed 2009
- Neighborhood Plan 2010-2011
- Zoning allows 3,000+ new homes
- Growing Fast
- Land constrained by natural features (Streams, wetlands, steep slopes, forested habitat)
- WTA GO Line
- Few sidewalks
- Few bike lanes
- Few crosswalks
- Few turn lanes
- Few traffic signals



- 2013-2016 James Street, Phase 1 (\$8.35 million)
- 2019-2020 Orchard-Birchwood Multimodal Arterial (\$12.15 million)
- 2019 James Street Study & Meridian Roundabouts Study (\$250,000)
- 2021 Telegraph Road Multimodal Arterial (\$5.8 million)
- 2023 Roundabout at James/Bakerview (\$4.0 million)
- 2024+ James Street, Future Improvements (\$8.0 to \$10.0 million)

**Total = \$40+ million**



# Public Works Plan

Short-Term (2017-2020)  
and Long-Term (2021+)

## Connectivity of Pedestrian & Bicycle Facilities in and surrounding King Mountain Neighborhood





# Environmental Issues & Challenges along James Street corridor

## Critical Areas & Natural Features:

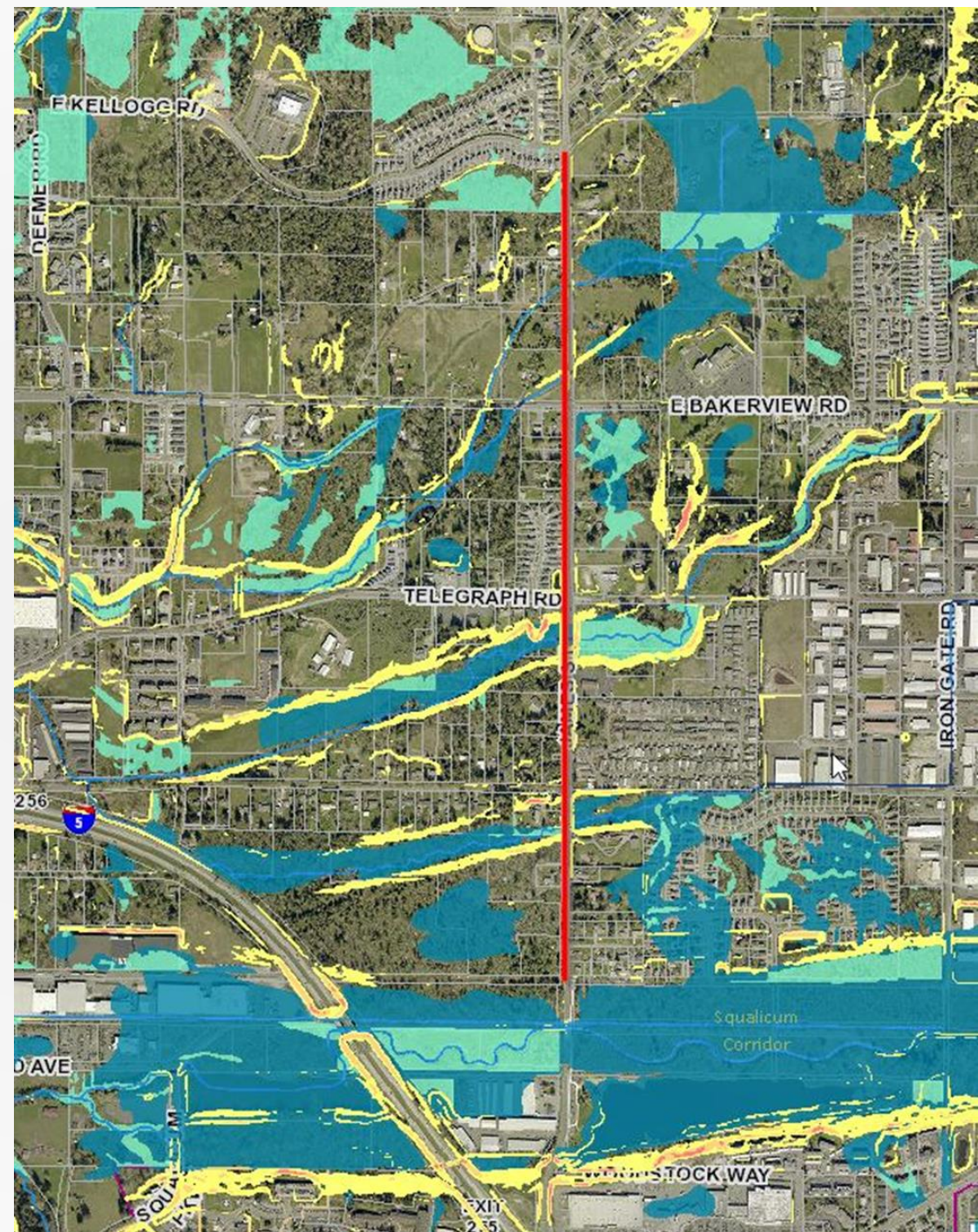
- Wetlands & buffers
- Streams, fish barriers, flood zone, buffers
- Steep slopes in ravines and ditches
- Open space & forested habitat

## Probable impacts to all of the above:

- Mitigation sequencing documentation
- How to minimize impacts
- Feasibility of alternatives analyzed
- Cost to mitigate unavoidable impacts

## Preferred Alternative = Balanced Approach:

- Accommodating planned growth
- Multimodal transportation needs
- Environmental protection
- Construction costs & funding capability





# James Street Multimodal Feasibility Study →

## PURPOSE:

- 1) **Analyze feasibility of alternatives** for constructing ADA-compliant pedestrian, bicycle, and transit-supportive improvements on James Street corridor;
- 2) Identify feasible alternatives **by arterial segment based on benefit-to-cost analysis**;
- 3) Develop the **most feasible alternatives** to **preliminary** design with **cost estimates for construction**;
- 4) Develop a **strategic and financially feasible** phasing plan for construction; and
- 5) Identify local, state, and federal **funding options**, including partnerships with private development and other interests.

## Project #16: James Street Multimodal Safety Improvements (East Orchard Drive to East Kellogg Road)

**PROJECT NARRATIVE:** James Street is the only north-south transportation corridor serving north-central Bellingham between Meridian (SR 539) and Hannegan, which is already zoned for 3,000 or more housing units. James Street provides access to Squalicum Creek Trail and Sunset Pond Park between Sunset Square Shopping Center, Telegraph Road, and East Bakerview Road. A vertical curve on the hill between Orchard and McLeod may require lowering to eliminate a sight distance issue, but more investigation is required. Pedestrian and Bicycle Master Plans call for sidewalks and bike lanes and WTA high-frequency Gold GO Line Route 331 service requires sidewalks and crossings to bus stops.

**MULTIMODAL TRANSPORTATION BENEFITS:** Tier 3 sidewalks, Tier 3 bicycle lanes, turn lanes, increased access, safety, sight distance, and efficiency. WTA Gold GO Line high-frequency transit route 331 and future WTA transit routes as King Mountain Neighborhood continues to develop.

**PROJECT STATUS:** Feasibility Study 2019. Unfunded. State and federal grant funding will be sought.

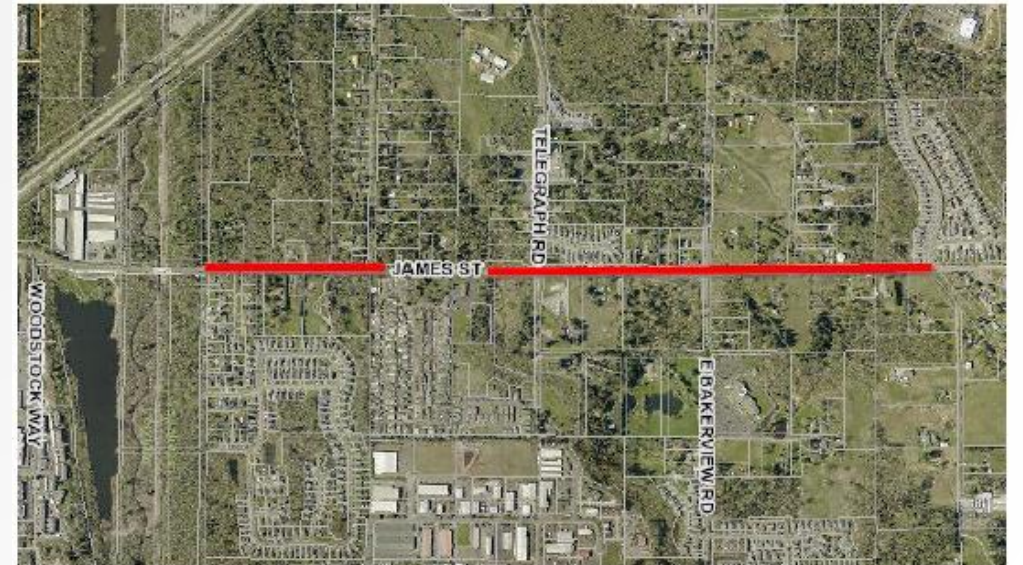
No.	PROJECT DESCRIPTION	FUNDING SOURCE	Cost Estimates (000's) 2019 Dollars							PROJECT TOTALS	
			Previous Budget	FUNDED				UNFUNDED			
			2020	2021	2022	2023	2024	2025			
16	James Street Multimodal	Street	110				Feasibility Study 2019				
	Safety Improvements	Pvt Mitigation									
	(E Orchard to Bakerview )	Unknown					8,000				
	(2019 Feasibility Study)	Subtotal	110				8,000			8,110	

TRANSPORTATION IMPACT FEES COLLECTED

Yes, for local funds

RIGHT-OF-WAY ACQUISITION NECESSARY

Not yet known

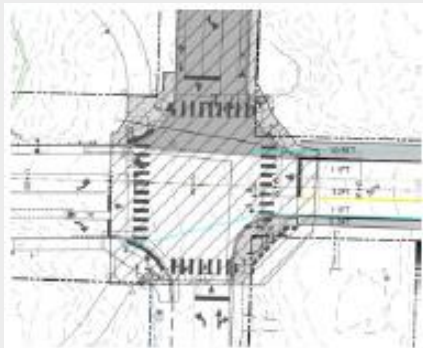




# Other Projects along James Street Corridor

(All are active, funded, and on schedule: **\$22 million**)

- Orchard Drive Extension & Traffic Signal at James (2020) **\$12.2 million**
- Telegraph Road Corridor & Traffic Signal at James (2021) **\$5.8 million**
- Multimodal Roundabout at E. Bakerview / James (2023) **\$4.0 million**
  - These projects have separate funding, right-of-way, and permitting requirements and are not included in the James Street corridor alternatives comparison, analysis, or cost estimates
    - Excluded from costs
    - Excluded from ROW impacts
    - Excluded from critical areas impacts



Orchard Street Extension and  
Signal Improvements (2020)



Telegraph Road  
Signal Improvements (2021)



Bakerview Road  
Roundabout (2023)





# James Street Corridor Segments

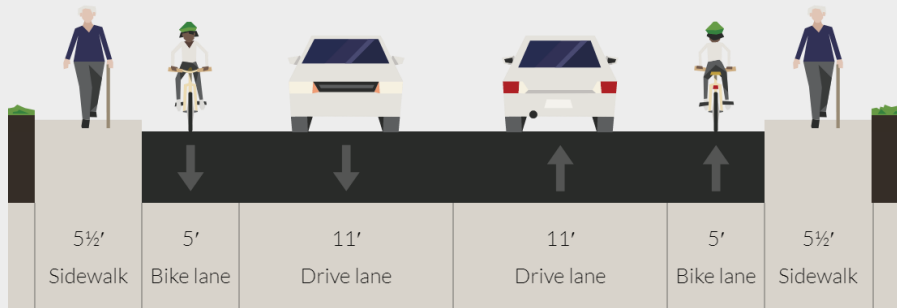




# James Street Alternatives Analysis

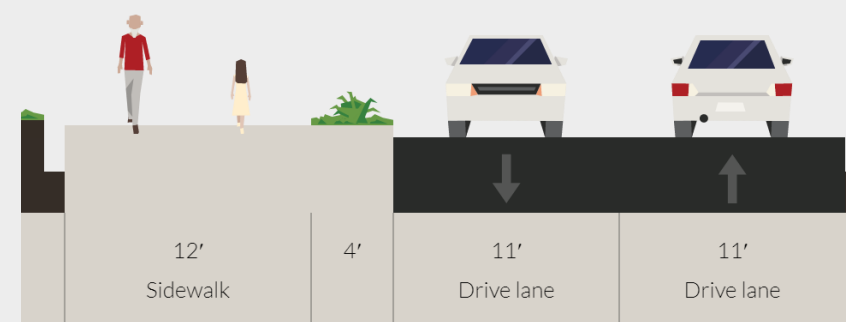
## Two Main Alternatives Evaluated

### Bellingham Urban Standard



- Reconstruct existing road to urban standard
  - Gilbert Drive vertical curve and culverts

### West Side Shared Use Path



- Existing roadway vehicle space unmodified
  - Gilbert Drive vertical curve and culverts



# Vertical Curve (McLeod to Gilbert)

Physically lower the hill and the utilities under roadway



Vertical curve viewed from North to South



Vertical curve viewed from South to North





**James Street Corridor Improvements:** These 2014-2016 improvements included bridge reconstruction, conversion of a narrow rural roadway into a **full-fledged urban arterial with bike lanes and a sidewalk along the east side** between a subdivision of 250 homes to Sunset Pond Park, and the reconstruction and realignment of the James/Woodstock intersection to remove sight distance and safety issues. These projects also allowed the 2015 relocation of Squalicum Creek to a new stream channel, the 2016 construction of the regional Squalicum Creek Trail between Sunset Pond Park and Cornwall Park, and will commence with the 2019-2020 construction of the Orchard-Birchwood multimodal arterial connection grade-separated beneath Interstate 5.

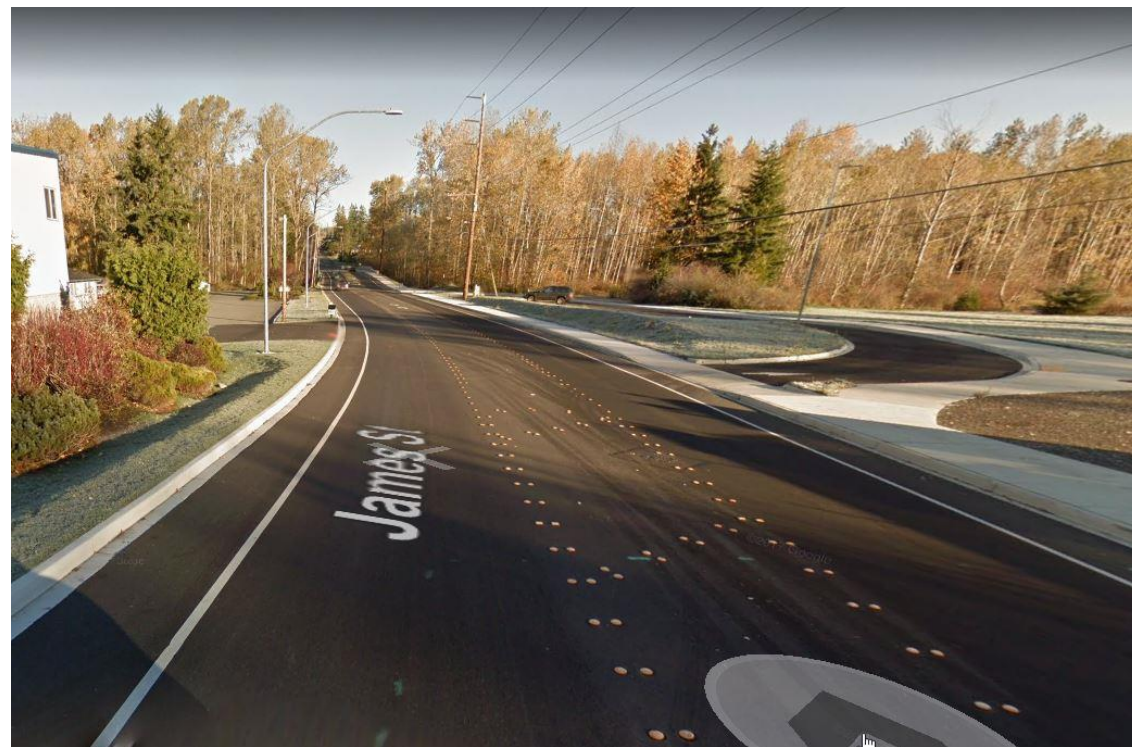
**Project Cost:** **\$8,350,000** (\$5,845,000 federal BRAC & STP-Regional; \$1,250,000 WA TIB; \$1,255,000 local)

**Project Benefits:** **New multimodal bridge and arterial street, safety for all users, speed & collision reduction, sidewalk, crosswalks, bike lanes, regional trail connection, and associated future projects.**

2013 Pre-Project: Deficient Bridge & Narrow Rural Roadway



2016 Post-Project: New Bridge & **Urban Multimodal Arterial Street**





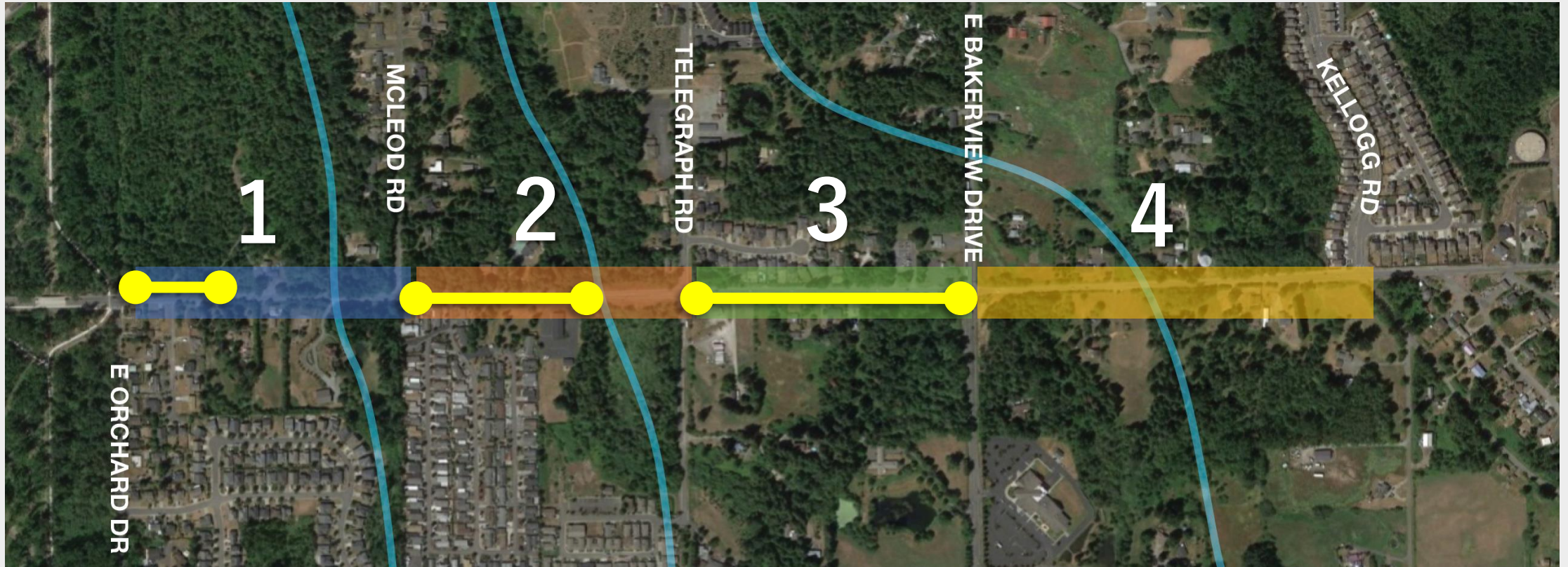
# Criteria Comparison Categories

- Pedestrian facility access & crossings
- Impervious area changes
- Wetlands and critical area impacts
- Culverts and wetland crossings
- Utility relocations and impacts
- Right of Way requirements
- Other engineering factors
- Directionality
- Cost (by Segment)
- Bicycle Exposure Level and Risk
- Bicycle Facility Comfort
- Pedestrian Facility Comfort
- Transit Access
- Operations/Traffic Impacts
- Future Development Compatibility
- Need for east sidewalk in places





# Sidewalks on East Side in Select Locations





# Alternatives Evaluation & Criteria Comparisons

CRITERIA	Segment 1		Segment 2		Segment 3		Segment 4	
	Concept A	Concept B	Concept A	Concept B	Concept A	Concept B	Concept A	Concept B
<b>ACTIVE MODE CONNECTIVITY</b>								
Crossings required	●	●	●	○	●	●	●	●
Both Sides (Bike)	●	○	●	●	●	●	●	●
Both Sides (Pedestrian)	●	●	●	●	●	●	●	○
Transit Access	●	●	●	●	●	●	●	○
<b>BIKE COMFORT AND SAFETY</b>								
Users of All Ages and abilities	○	●	○	●	○	●	○	●
Mixed traffic/modes	●	●	●	●	●	●	●	●
<b>PEDESTRIAN COMFORT AND SAFETY</b>								
Users of All Ages and abilities	●	●	●	●	●	●	●	●
Mixed traffic/modes	●	●	●	●	●	●	●	●
<b>RIGHT OF WAY AND CRITICAL AREAS</b>								
Right of Way requirements	○	●	●	●	●	●	●	●
Wetlands Impacted	●	●	●	●	●	●	○	●
Wetland buffer impacts	○	●	○	●	●	●	○	○
Fish-Passable Culverts	●	●	●	●	●	●	●	●
<b>COST</b>	○	●	○	●	●	●	○	●
<b>SUMMARY</b>	●	●	●	●	●	●	●	●

## SATISFACTION OF CRITERIA

● Exceeds desirable criteria
 ● Meets desirable criteria
 ○ Does not meet desirable criteria



### ACTIVE MODE CONNECTIVITY.

Connectivity for both pedestrians and cyclists on both the east and west side of the corridor, as well as to the north and south ends of the corridor. Connectivity at intersections to other projects.



### BIKE COMFORT AND SAFETY.

The level of comfort and limited risk factors for bicycle users of all ages and abilities throughout the corridor for the alternative.



### PEDESTRIAN COMFORT AND SAFETY.

The level of comfort and limited risk factors for pedestrians of all ages and abilities throughout the corridor, including connections to transit, for the alternative.



### RIGHT OF WAY AND CRITICAL AREA IMPACTS.

The requirements for additional right of way and permanent impacts to wetlands and wetland buffers from new hardscape as well as expanded side slopes.



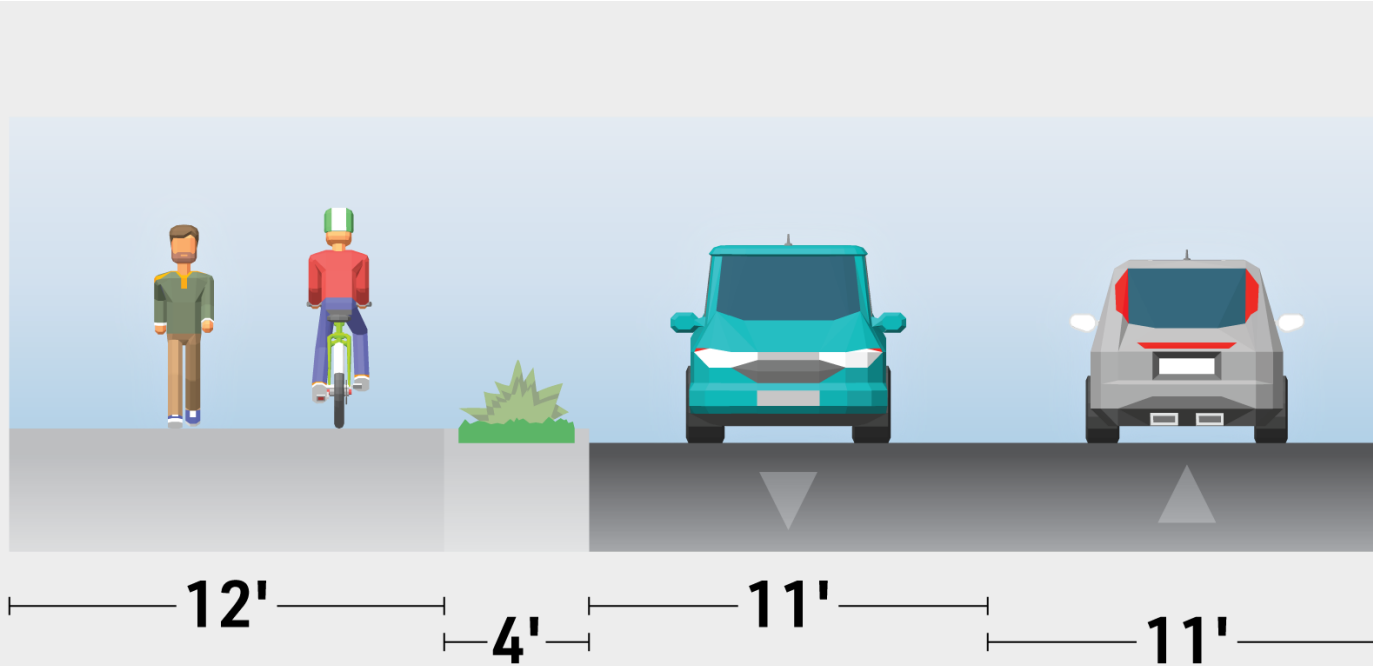
### COST.

The planning-level estimated cost of the project, evaluating the City's ability to construct the improvements given limited resources and competing demands.



# James Street Preferred Alternative

## West Side Shared Use Path



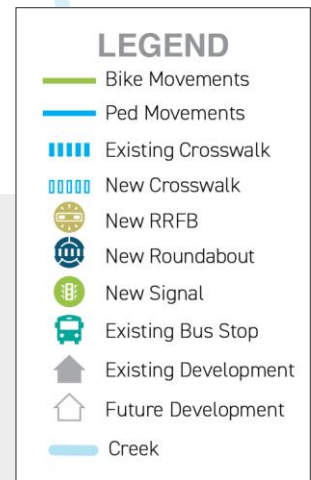
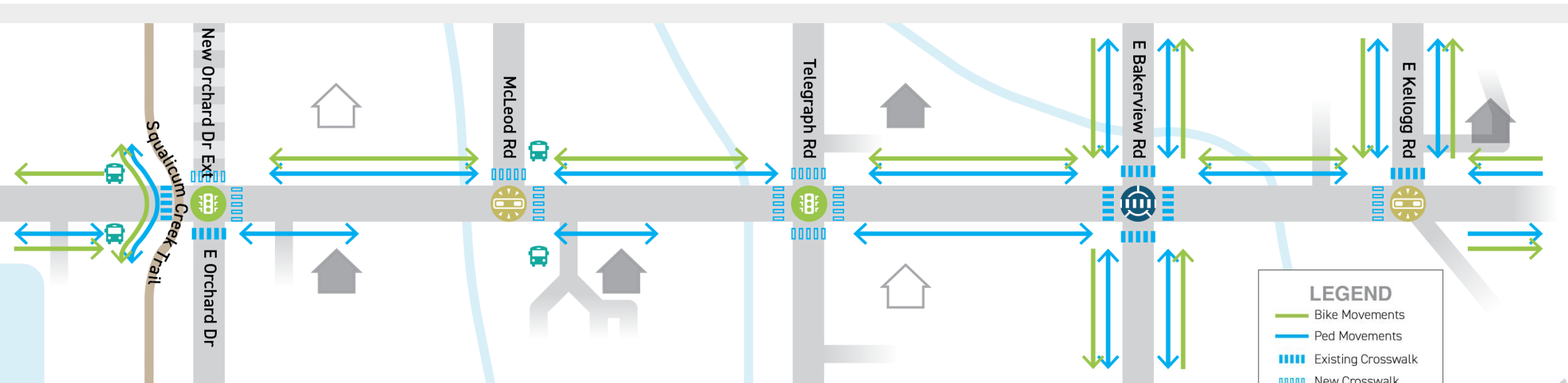
### SHARED USE PATH

- 11-foot vehicle lanes with a 10 to 12-foot wide bi-directional shared use path on one side
- Vegetated planting strip between path and roadway used for stormwater conveyance and treatment and separation from traffic
- Curbed shoulders in locations where additional sidewalk is needed on the other side of the road





# James Street Preferred Alternative



## Additional Corridor Improvements

- Protected ped crossings at Orchard, McLeod, Telegraph, Bakerview intersections
- Gilbert Drive vertical curve removed
- Fish-passable culverts under roadway





# Intersection Compatibility

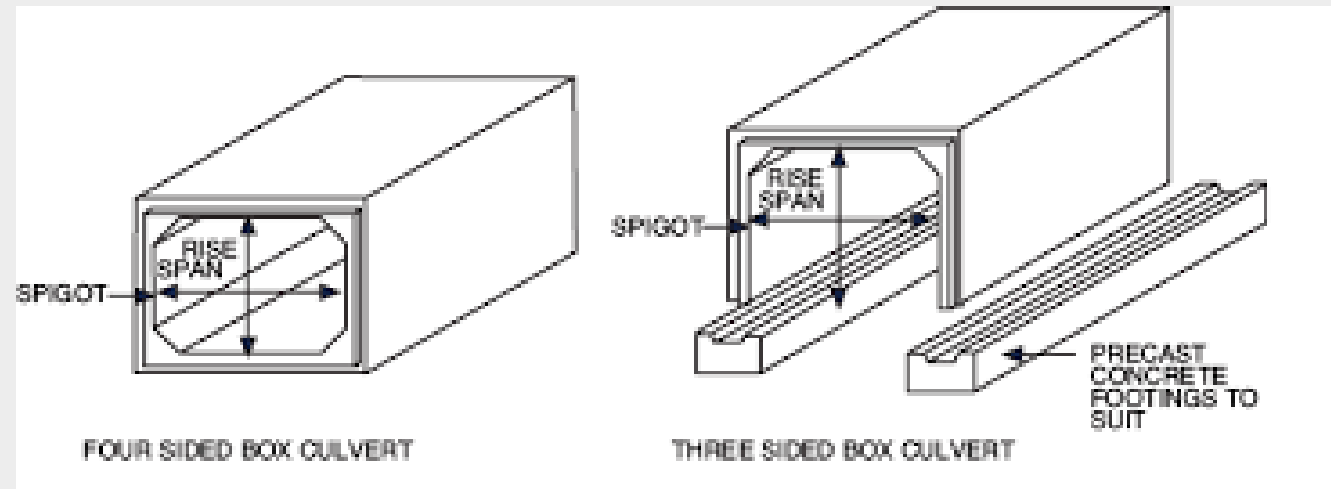
- Shared use path will require a wider (8'-10') crossing at streets (Orchard, McLeod, Telegraph, Bakerview), but locations unchanged
  - Protected traffic signal crossings at Orchard and Telegraph
  - Alignment would be modified to meet James/Bakerview roundabout crossings
  - McLeod Road is barricaded on west end; Very low traffic volume
- Signal operations could be reviewed to prioritize and/or separate path movements, or allow crossings during James Street north/south phases
  - Potential to temporarily restrict right turn on red at Telegraph when push-button activated
  - Heavy right turn volume at Telegraph/James intersection will increase over time





# Under Roadway Stream Culvert Analysis

- Culverts under roadway must be reconstructed to be “fish passable”
  - Bottomless concrete box assumed
- Full-roadwidth culvert replacements assumed for both alternatives
  - Culvert replacement estimated at \$5.5 million for 3 corridor crossings





# Stormwater, Wetlands, and Critical Areas



- Reverse-sloped path proposed to limit infrastructure
- 4' vegetated buffer provided where ROW allows
- Side slopes provided to meet existing ground except at proposed walls at the culvert crossings of Baker Creek, North and South Forks
  - Slope limits determine critical area and ROW impacts
- All wetland impacts from preferred alternative eliminated with reduced section width
- Detention/wet pools proposed for flow control
  - Costs assume ROW acquisition required for full size of pond



# Estimated Construction Costs (2025 dollars)

## Standard Arterial Section

- Segment 1: \$5.7 million + \$1.0 million culvert
- Segment 2: \$4.6 million + \$3.5 million culvert
- Segment 3: \$2.9 million
- Segment 4: \$4.6 million + \$1.0 million culvert
- **Total Cost: \$24.1 Million**
  - Active Improvements: \$17.8 million
  - Fish-Passable Culverts: \$5.5 million
  - Wetland mitigation: \$0.8 million

## West Side Shared Use Path

- Segment 1: \$3.1 million + \$1.0 million culvert
- Segment 2: \$2.3 million + \$3.5 million culvert
- Segment 3: \$0.8 million
- Segment 4: \$2.1 million + \$1.0 million culvert
- **Total Cost: \$14.2 Million**
  - Active Improvements: \$8.3 million
  - Fish-Passable Culverts: \$5.5 million
  - Wetland mitigation: \$0.4 million



# Possible Timing - Optimistic

- Implementation timeframe
- Intersection Projects funded for construction
  - Orchard/James – 2020
  - Telegraph/James – 2021
  - Bakerview/James – 2023
- Corridor segments →

Segment	Dependent On	Earliest Possible
Orchard-McLeod	<ul style="list-style-type: none"> <li>• Abutting property development</li> <li>• Local &amp; Grant funding</li> <li>• Partnership with WTA</li> </ul>	2024+
McLeod-Telegraph	<ul style="list-style-type: none"> <li>• Local &amp; Grant funding</li> <li>• Environmental mitigation funds</li> <li>• Partnership with WTA</li> </ul>	2024+
Telegraph-Bakerview	<ul style="list-style-type: none"> <li>• Abutting property development</li> <li>• Roundabout</li> <li>• Local &amp; Grant Funding</li> </ul>	2023+
Bakerview-Kellogg	<ul style="list-style-type: none"> <li>• Local &amp; Grant funding</li> <li>• Grant funding</li> </ul>	2025+





**Table B.** below shows transportation intersection and arterial street improvements that are considered necessary to accommodate planned growth and development inside of the 2016 City limits in the second five years of the planning period (2021-2026). The estimated costs are based on the linear foot costs of the funded arterial street improvements in the first five years (2016-2020).

Arterial Street Improvements Needed to Accommodate Planned Growth and Development: 2022-2027												
B. Arterial and Intersection Improvements Not Yet Funded 2022-2027												
2016 City Limits Project Location	From	To	Linear Feet	Planned Improvements	Estimated Cost <sup>1</sup>	Funded?	Federal	State	Local	Private/TIF	Plan to Fund?	Construction
Bakerview/Northwest	Intersection			Feasibility study for safety improvements	\$100,000	No					Local	2022-2027
Bakerview/Northwest	Intersection		400	Safety improvements for vehicle collision reduction could include access management and, if possible, conversion of signal to roundabout	Unknown	No					State, federal grants; local Street fund	2022-2027
Connellv/I-5 SB on/off	Intersection		400	Construct a 4-way traffic signal	\$400,000	No					WSDOT; grants; local	2022-2027
Northwest/Aldrich	Intersection		200	Install right-in; right-out only turn restrictions	\$50,000	No					Local	2022-2027
Northwest/Maplewood	Intersection		400	Construct a 4-way traffic signal	\$400,000	No					State, federal grants; local	2022-2027
N. Samish Way, Phase 1	Ellis	Bill Mac		Road/Transit/Bikeway Feasibility Study	\$100,000	No					Local	2022-2027
N. Samish Way, Phase 2	Ellis	Bill Mac	3,700	Asphalt Resurfacing & ADA upgrades (5-foot sidewalks)	Unknown	No					Local	2022-2027
Cordata/Horton	Intersection		400	Convert Stop Control to Roundabout	\$2,000,000	No					State, federal grants; local Street fund	2022-2027
Meridian/Birchwood and Meridian/Squalicum	Intersection		1,000	Reconstruct Traffic Signals to Roundabouts	\$8,000,000	No					State, federal grants; local Street fund	2022-2027
James/Orchard	Intersection		400	Construct a 4-way traffic signal	\$400,000	No					State, federal grants; SEPA; local funds	2022-2027
James/Telegraph	Intersection		400	Construct a 4-way traffic signal	\$400,000	No					State, federal grants; local	2022-2027
James Street, Phase 1	E. Orchard	Bakerview	2,600	Widen to Urban Arterial - Sidewalks, bike lane, 2 travel lanes, left-turn lanes,	\$8,450,000	No					SEPA mitigation; local TBD	2022-2027
Railroad Quiet Zones	Through	Bellingham		Meet federal requirements for "Quiet Zones"	\$10,000,000	No					State, federal grants; local	2022-2027
<b>Total Yet to be Funded</b>					<b>\$30,300,000</b>		<b>28.0%</b>	<b>45.0%</b>	<b>19.0%</b>	<b>8.0%</b>	<b>100.0%</b>	
Citywide				Arterial Street Resurfacing, Repair, Maintenance	\$25,000,000	Yes			100%		No	
Ped Master Plan				Various Unknown Tier 1, 2, 3 Sidewalk Links	\$7,000,000	Partial	5%	15%	75%	5%		2022-2027
Bike Master Plan				Various Unknown Tier 1, 2, 3 Bikeway Links	\$6,000,000	Partial	5%	25%	65%	5%		2022-2027
<b>Total</b>			<b>9,900</b>	<b>Total Funding Needs 2022-2027</b>	<b>\$68,300,000</b>							<b>Unfunded</b>

**2016 Comp Plan**  
***estimated*** various  
projects along  
James Street from  
2022-2027  
(Prior to this study)

**Dependent upon:**  
- More development  
along James Street  
& King Mtn Nhood

- Securing many  
millions of dollars  
in State & Federal  
grant funding

# Possible Future Project Funding Sources

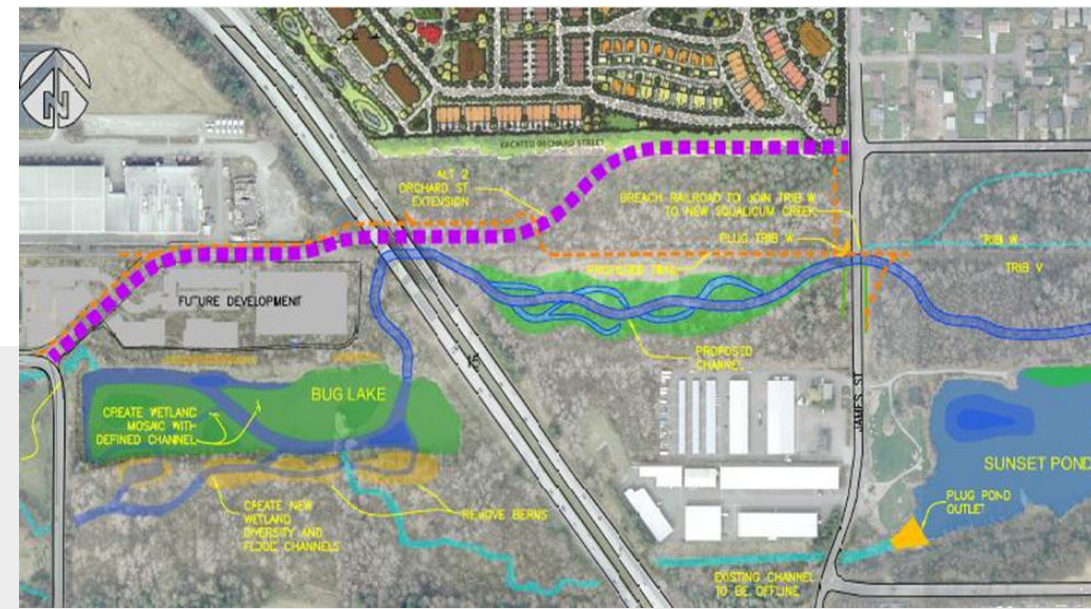
- **Additional development on James St**

- Street frontage improvements (Ex: →)
- Multimodal Transportation Impact Fees
- Off-site mitigation, if necessary, identified in TIA (Ex: James/Telegraph signal)

- **Possible Funding sources – All competitive with limited funds\***

- Ecology: Culvert replacement; stream habitat; wetland enhancement
- Transportation Improvement Board (Urban, Sidewalk, Complete Streets)\*
- Bellingham Transportation Benefit District (*If renewed by voters in 2020*)
- WSDOT Pedestrian & Bicycle Safety Improvements\*
- WSDOT Federal Highway Safety Improvement Program
- Federal Surface Transportation Block Grant

*\*Note: If voters approve I-976 on Nov 5, it will diminish grant funding*





# What Happens Next?

- 2019 Feasibility Study is Complete; Preferred Alternative Identified
- In May-June 2020, City staff will revise the unfunded James Street project description in the 2021-2025 Transportation Improvement Program (TIP) to be phased by segment, consistent with the 2019 feasibility study: **\$14 million**
- Traffic signals constructed at James/Orchard (2020), James/Telegraph (2021), roundabout constructed at James/Bakerview (2023): **\$22 million**
- City will look for opportunities to secure grant funding by segment, as well as requiring new development to contribute funding toward the preferred alternative (ROW dedication, frontage improvements, TIF)





# In Addition to Transportation Improvements, the City will be Improving Stream Habitat with **Squalicum Creek Phases 3 & 4**





# Questions & Contact Information:

Web Page = *James Street Multimodal Feasibility Study*

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