How has this area changed over time?

1963 - Meridian to James

2016 – Meridian to James
How has this area changed over time?

1980 – Telegraph Road

1980 – Irongate to James
How has this area changed over time?

1964 – Sunset Square/I-5

1980 – Sunset Square/I-5
How has this area changed over time?

1968 – James St / Milwaukee Rail

1972 – James St at Rails/Bridge
Since 1990, City + UGA population has grown by 65% from 60,000 to 99,000

25% of City limits added north of 1904 boundaries via annexation since 1980

1990’s = predominantly commercial & industrial land to generate sales tax revenue, which provides almost all local transportation funding (General & Street Funds, WTA Levy, Bham TBD)

2000’s = predominantly residential land, which does not generate much tax revenue and is very expensive to provide urban services to

When UGA annexes, City inherits old, narrow, rural standard roads with no shoulders, no sidewalks, no bike lanes

Extremely expensive to retrofit rural roads to urban multimodal complete streets
King Mountain Land Use-Transportation

• Growth Management Act (GMA)
• Urban Growth Area = Future City
• 1,000 acres annexed from Whatcom County to Bellingham (2009)
• Rural to Urban Land Use Densities
• Development must be served with “Adequate” Transportation Facilities
• Bellingham “Adequate” = Multimodal
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
King Mountain Neighborhood

- 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

City Transportation Plan Investments

- 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
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 will create more traffic
Public Works Plan for Short-Term (2017-2020) and Long-Term (2021+)

Connectivity of Pedestrian & Bicycle Facilities between Cordata, Meridian, King Mtn, Cornwall Park, Barkley, & Irongate Neighborhoods

- Mobility Barriers
- Existing bicycle facilities 2014
- 2015 - 2017 bicycle improvements
- 2018 bicycle improvements
- Intersection improvements
- 2019 - 2020 improvements
- Intersection improvements (if funded)
- Future unfunded links
- Intersection improvements
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.
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
Segment 1: Orchard Drive to Mcleod Road

Existing
25’ edge of pavement to edge of pavement
1 Lane NB, 1 Lane SB
Left Turn Lane at Orchard Drive
60’ ROW

Full Arterial Standard

Potential Options:
Segment 2: Mcleod Road to Telegraph Road

**Existing**
- 25' edge of pavement to edge of pavement
- 1 Lane NB, 1 Lane SB
- Left Turn Lane at Telegraph Road
- Existing Bus Stops Near Mcleod Road
- 60' ROW

**Full Arterial Standard**

**Potential Options**
Segment 3: Telegraph Road to E Bakerview Road

**Existing:**
- 34' curb to edge of pavement
- 1 Lane NB, 1 Lane SB
- Left Turn Lane at E Bakerview Road
- Sidewalk on east side
- 70' ROW

**Full Arterial Standard**

**Potential Options**
Segment 4: E Bakerview Road to E Kellogg Road

- Existing:
  - 22' edge of pavement to edge of pavement
  - 1 Lane NB, 1 Lane SB
  - Left Turn Lane at E Kellogg Road
  - 60' ROW

Full Arterial Standard

Potential Options
WHAT ALTERNATIVES WERE CONSIDERED?

Three alternatives were developed that included alternative traffic control features and lane configurations. A matrix comparing ten measures of effectiveness (MOS) was prepared to show the benefits and drawbacks of each concept as described below.

<table>
<thead>
<tr>
<th>MEASURES OF EFFECTIVENESS</th>
<th>WEIGHTING</th>
<th>NO ACTION</th>
<th>NEW TRAFFIC SIGNAL</th>
<th>SINGLE-LANE ROUNDABOUT</th>
<th>DOUBLE-LANE ROUNDABOUT</th>
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<tbody>
<tr>
<td>TRAFFIC OPERATIONS</td>
<td>30%</td>
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<td>Intersection LOS / Delay</td>
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<td>Non-Motorized</td>
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<td>Motorized</td>
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<td>CONNECTIVITY &amp; ACCESS</td>
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<tr>
<td>Vehicle Access</td>
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<td>Bike Connectivity</td>
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<td>Pedestrian Connectivity</td>
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<td>ROW AND ENVIRONMENTAL IMPACTS</td>
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<td>Weights</td>
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<td>COST</td>
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<td>OVERALL</td>
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WHAT IS THE PURPOSE OF THE PROJECT?

The James Street / Bakerview Road intersection has been included in the City of Bellingham’s 10-year Transportation Improvement Program as a high priority project. In 2018, the City received funding from the Federal Highway Administration to evaluate and design improvements to the intersection. A Transportation Safety and Operations Study was conducted to identify improvement alternatives to address maintenance operations, safety issues, and lack of pedestrian and bicycle services in the vicinity. This intersection has a documented collision history that includes angle and rear-end crashes, in addition to high observed speeds.

This preferred concept includes construction of a one-way roundabout with no pedestrian right-turn lanes on three of the approaches. A roundabout is anticipated to slow vehicle speeds, reduce the severity of crashes, and have shorter queuing lengths than a traffic signal intersection. The preferred concept includes sidewalks, bicycle lanes, and full-access crosswalks designed to current AASHTO standards.

WHY IS THE CITY PROPOSING IMPROVEMENTS AT THIS INTERSECTION?

James Street is a major north-south secondary arterial and Bakerview Road is a principal arterial and diagonal major road between Interstate 5, the Nanaimo Industrial Complex, and Hamman Road in north-central Bellingham. Both arterials carry high volumes of traffic and the City is proposing the pedestrian roundabout concept to increase safety, accommodate future traffic, and provide pedestrian and bicycle facilities.

Find out more information about the project.

Craig Mueller, P.E., Project Engineer
BELLEFONNAM PUBLIC WORKS
360.735.7960 | cmuellar@cob.org | www.cob.org | James Mason

CONSULTANT TEAM:

JAMES/BAKVIEW INTERSECTION
SAFETY IMPROVEMENTS
HOW WAS THE STUDY CONDUCTED?

An existing conditions evaluation of the intersection was conducted as part of this project to assess intersection operations, prevailing speeds, vehicle and non-motorized travel, and incident collisions. Future roadway projects where this condition evaluation was conducted are determined to identify potential improvements to the vicinity of the intersection. An Intersection capacity analysis and conceptual drawings were prepared to identify potential roadway configurations and assess how they impact the overall roadway and the intersection. The evaluation also compared the alternatives against several Measures of Effectiveness (MOEs) that included traffic operations, vehicle queues, vehicle and non-motorized safety, environmental impacts to sensitive areas, and overall project cost.

WHAT ISSUES ARE BEING ADDRESSED?

SPEED

Vehicle speeds were observed at four legs of the intersection. Prevaling speeds were measured by site and all miles per hour (mph).

<table>
<thead>
<tr>
<th>Speed Range</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>0 - 20 mph</td>
<td>1%</td>
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<tr>
<td>20 - 30 mph</td>
<td>2%</td>
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<tr>
<td>30 - 40 mph</td>
<td>16%</td>
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<tr>
<td>40 - 50 mph</td>
<td>31%</td>
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<td>50 - 60 mph</td>
<td>15%</td>
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<tr>
<td>60 - 65 mph</td>
<td>0%</td>
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<tr>
<td>65 - 70 mph</td>
<td>0%</td>
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</tbody>
</table>

SAFETY

Collision records were reviewed for the most recent 5-year period available. Several non-accident turning collisions occurred at the intersection.

WHAT IS THE PREFERRED CONCEPT?

The preferred concept includes a single-lane roundabout with right-turn lanes on Bakerview Road and the northbound approach on James Street.

SINGLE-LANE ROUNDABOUT WITH RIGHT-TURN LANES

Bakerview Road

James Street

COST: $3,320,000

FACTORs TO CONSIDER

1. A single-lane roundabout is anticipated to accommodate projected traffic volumes for the first 10 to 15 years after the Opening Year.

2. Queue lengths for the roundabout are much shorter than those for a signalized intersection.

3. Vehicle speeds through the intersection will be slowed to 25 mph or less, reducing the severity of crashes.

4. Pedestrian crossings are only across a maximum of two lanes, but vehicles are not controlled by a traffic signal.

5. The single-lane roundabout could be expanded to accommodate a two-lane roundabout in the future.
## Approximate Schedule for Feasibility Study

<table>
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<tr>
<th>Work Task</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
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<td><strong>TASK 1: FIELD INVESTIGATION</strong></td>
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<td><strong>TASK 3: ALTERNATIVES ANALYSIS</strong></td>
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<td>Selection of Preferred Alternative</td>
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<td>Preliminary Design Plans and Cost Estimates</td>
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<td>Identify Funding Strategies</td>
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<td>Prepare Corridor Study Report</td>
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### Schedule of Deliverables

- **A** Summary of Project Goals & Evaluation Criteria
- **B** List of Alternatives to Evaluate
- **C** Results of the Alternatives Analysis
- **D** Preliminary Design Plans and Costs
- **E** Draft Report
- **F** Final Report

- **X** Project Team Meetings
- **A** Key Milestone / Deliverable
King Mountain Neighborhood
Information and Resources

➢ King Mountain Neighborhood resource page on City web site

➢ 2010 King Mountain Neighborhood Plan

➢ 2019 James Street Multimodal Feasibility Study (ES-0549: Orchard Dr to Kellogg Rd)

➢ Bellingham Transportation Planning

➢ Bellingham 6-Year Transportation Improvement Program (TIP) web page

DRAFT 2020-2025 TIP available on web page above on Monday, May 6, 2019
Questions & Contact Information:

Chris Comeau, AICP-CTP, Transportation Planner
Bellingham Public Works Engineering
360.778.7946  ccomeau@cob.org