



## AGENDA

### City Council Study Session

6:30 PM - Tuesday, March 13, 2018

City Hall Council Chambers, Sammamish, WA

Page		Estimated Time
	<b>CALL TO ORDER</b>	6:30 pm
	<b>PUBLIC COMMENT</b>	6:35 pm
	<p><i>Note: This is an opportunity for the public to address the Council. Three-minutes limit per person or five-minutes if representing the official position of a recognized community organization. If you would like to show a video or PowerPoint, it must be submitted or emailed by 5 pm, the end of the business day, to the City Clerk, Melonie Anderson at <a href="mailto:manderson@sammamish.us">manderson@sammamish.us</a>. Please be aware that Council meetings are videotaped and available to the public.</i></p>	
	<b>TOPICS</b>	7:05 pm
3 - 15	1. Pavement Management Program Information Session <a href="#">View Agenda Item</a>	
16 - 38	2. Issaquah Fall City Road - 242nd AVE SE to Klahanie DR SE, Project Update <a href="#">View Agenda Item</a>	
	<b>EXECUTIVE SESSION – IF NECESSARY</b>	
	<b>ADJOURNMENT</b>	10:00 pm

City Council meetings are wheelchair accessible. American Sign Language (ASL) interpretation is available upon request. Please phone (425) 295-0500 at least 48 hours in advance. Assisted Listening Devices are also available upon request.



**Agenda Bill**  
 City Council Study Session  
 March 13, 2018



<b>SUBJECT:</b>	Pavement Management Program Information Session		
<b>DATE SUBMITTED:</b>	March 05, 2018		
<b>DEPARTMENT:</b>	Public Works		
<b>NEEDED FROM COUNCIL:</b>	<input type="checkbox"/> Action <input type="checkbox"/> Direction <input checked="" type="checkbox"/> Informational		
<b>RECOMMENDATION:</b>	Hear staff presentation on the City's Pavement Management Program.		
<b>EXHIBITS:</b>	<a href="#">1. Exhibit 1 - Pavement Management Presentation 2018</a>		
<b>BUDGET:</b>			
Total dollar amount	\$0	<input type="checkbox"/>	<b>Approved in budget</b>
Fund(s)	N/A	<input type="checkbox"/>	<b>Budget reallocation required</b>
		<input checked="" type="checkbox"/>	<b>No budgetary impact</b>
<b>WORK PLAN FOCUS AREAS:</b>			
<input checked="" type="checkbox"/> Transportation	<input type="checkbox"/> Community Safety		
<input type="checkbox"/> Communication & Engagement	<input type="checkbox"/> Community Livability		
<input type="checkbox"/> High Performing Government	<input type="checkbox"/> Culture & Recreation		
<input type="checkbox"/> Environmental Health & Protection	<input type="checkbox"/> Financial Sustainability		

**ISSUE BEFORE COUNCIL:**  
 Pavement Management Program Information Session

**KEY FACTS AND INFORMATION SUMMARY:**  
 The City of Sammamish has an annual \$3.5 million Pavement Management Program that facilitates ongoing roadway repair. The City of Sammamish’s Pavement Management Program consists of three annual maintenance projects for preserving the condition our roadway network. The City manages the network by utilizing visual and digital inspections to rate the condition of the roadways. These conditional ratings are used to determine the overall amount of repairs needed throughout the network and track time between repairs. The City’s roadway network currently consists of more than 204 centerline miles of roadway and increases as development occurs.

The City of Sammamish took complete control of road maintenance and began managing pavement overlay projects when the partnership with King County ended in 2008. Since then, the City’s Pavement

Management Program has overlaid more than 72 miles of roadway and has consistently rehabilitated between 7.5 to 10 centerline miles per year.

In order to be more efficient with the overlay program, the overall maintenance contract was recently separated into three individual contracts based on work scope. Council will have the opportunity to review each project and award the public bid. The projects are as follows:

**1. Concrete Sidewalk Handicap Ramp and Repair.** This contract includes concrete sidewalk handicap ramp locations and repairs required by the federal Americans with Disabilities Act (ADA). Per 2010 ADA laws, every ramp that crosses an overlay location must be updated to meet the current ADA standards. Very few existing City roads have ramps that are compliant with the current standards due to their age. As a result, the City has been required to retrofit more than 230 ramps within the overlay limits during the past two years. This year we expect to retrofit an additional 76 ramps. Staff anticipates presenting this contract to Council in April, with construction starting later that same month.

**2. Pavement Overlay.** The majority of the Pavement Management Program maintenance is performed through the annual overlay program maintenance contract. An overlay consists of adding 1.5" to 2.0" of pavement to the existing pavement surface. In instances where the roadway has isolated structural deficiencies, replacement patching occurs prior to the overlay. Overlaying a roadway will gain an additional 15 to 20 years of pavement life reducing the need to replace the roadway. The overlay contract is expected to be presented in May, with construction starting in June.

**3. Patching.** The third maintenance contract is for structural patching for localized failures. This involves removing isolated roadway failures and rebuilding the roadway structure underneath. The patching contract is expected to be presented in July, with construction starting in September.

#### FINANCIAL IMPACT:

The City budgets \$3.5 million annually for the work described above. Current estimates for the 2018 contracts are \$200k for the patching work, \$700k for the sidewalk handicap ramp repair and retrofit projects, and \$2.5 million for the pavement overlay projects.

#### OTHER ALTERNATIVES CONSIDERED:

The council may opt to reduce the volume of road repair work done annually. This is not recommended as the road conditions will decline and deferring maintenance may result in more complicated repairs, with higher costs in the future.

#### RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

Comprehensive Plan:

**Goal T.3 :** As a high priority, maintain, preserve, and operate the city's transportation system in a safe and functional state.

**Policy T.3.2:** Prioritize safety improvements to the existing transportation system to protect mobility and lower overall lifecycle costs.

**Policy T.3.17:** Utilize transportation financing methods that sustain maintenance preservation, and operation of facilities.



# Pavement Management Program

**Council Study Session  
March 13, 2018**



# Introduction

- Pavement Management → Maintaining our entire roadway network.



Overlay



Ramp Retrofit



Patching

# Pavement Condition Index (PCI)

- PCI ranges from **1** (worst) to **100** (best).
- Tools Used: TransMap and MicroPaver.

## Sammamish Examples:



PCI = 100



PCI = 75



PCI = 50



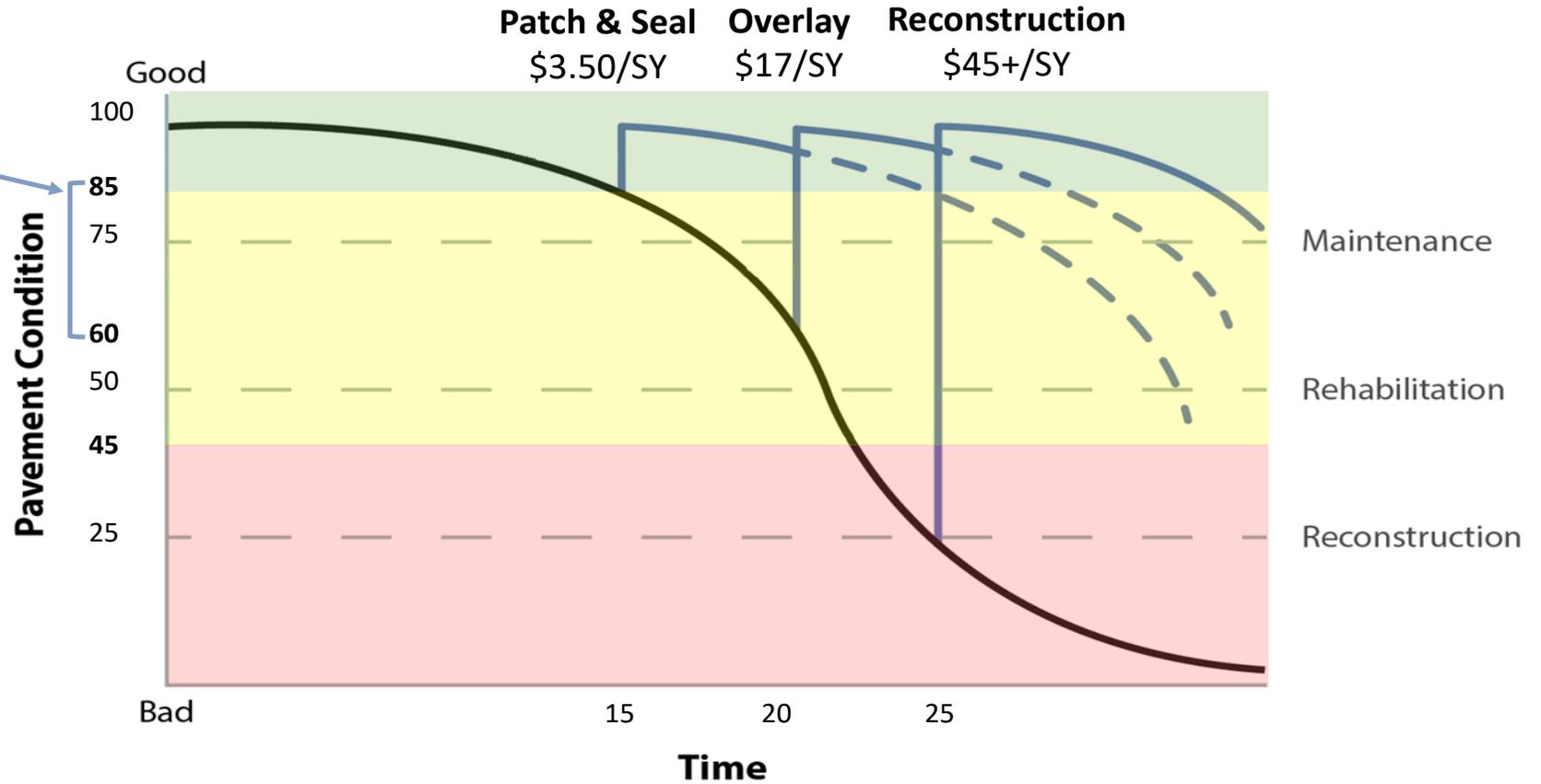
PCI = 25



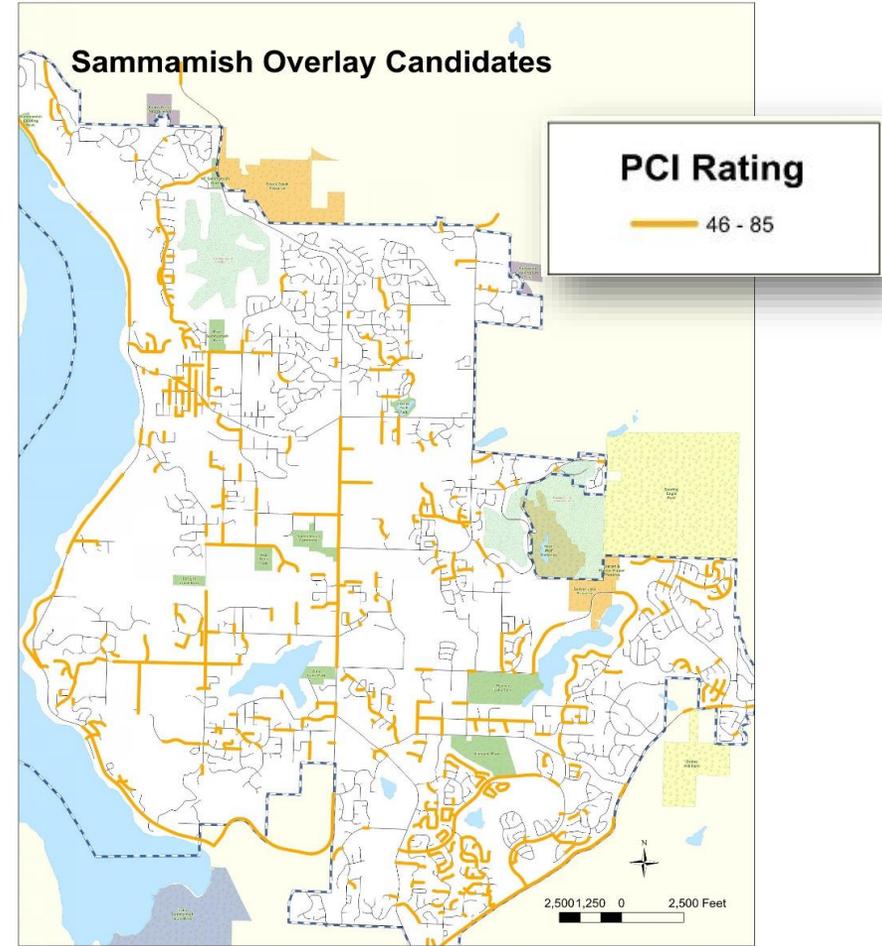
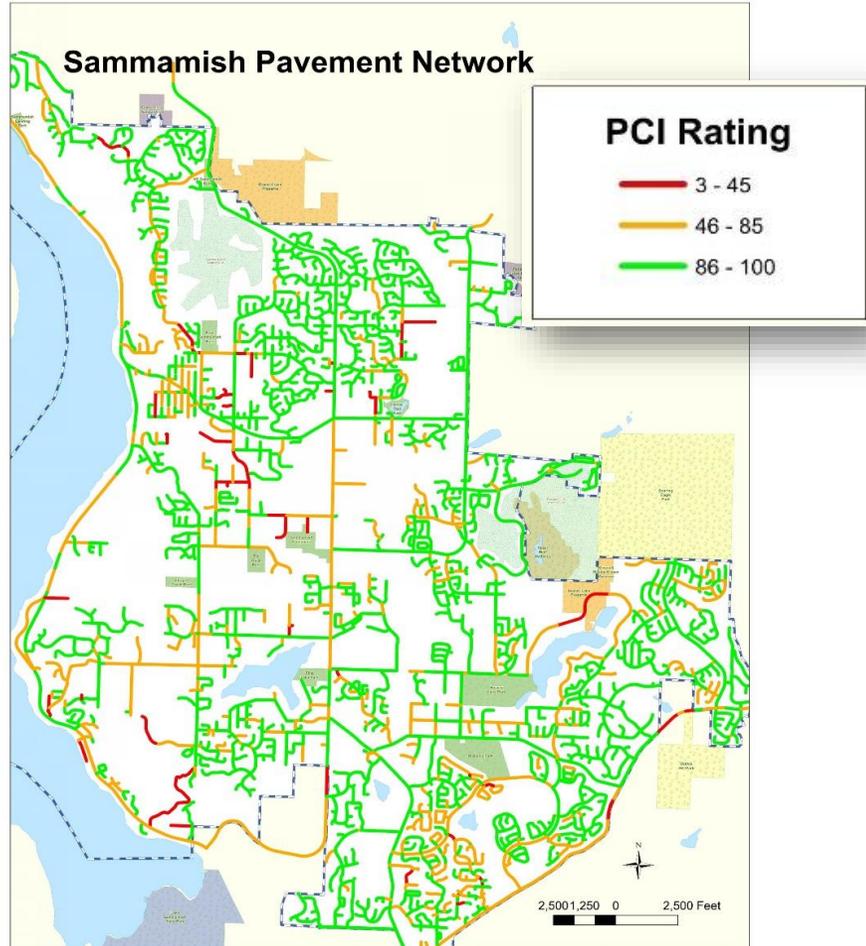
PCI = 3

# Pavement Lifecycle Curve

**GOAL:** Overlay when pavement condition is rated between 60-85 for greatest cost efficiency.



# Sammamish PCI Ratings

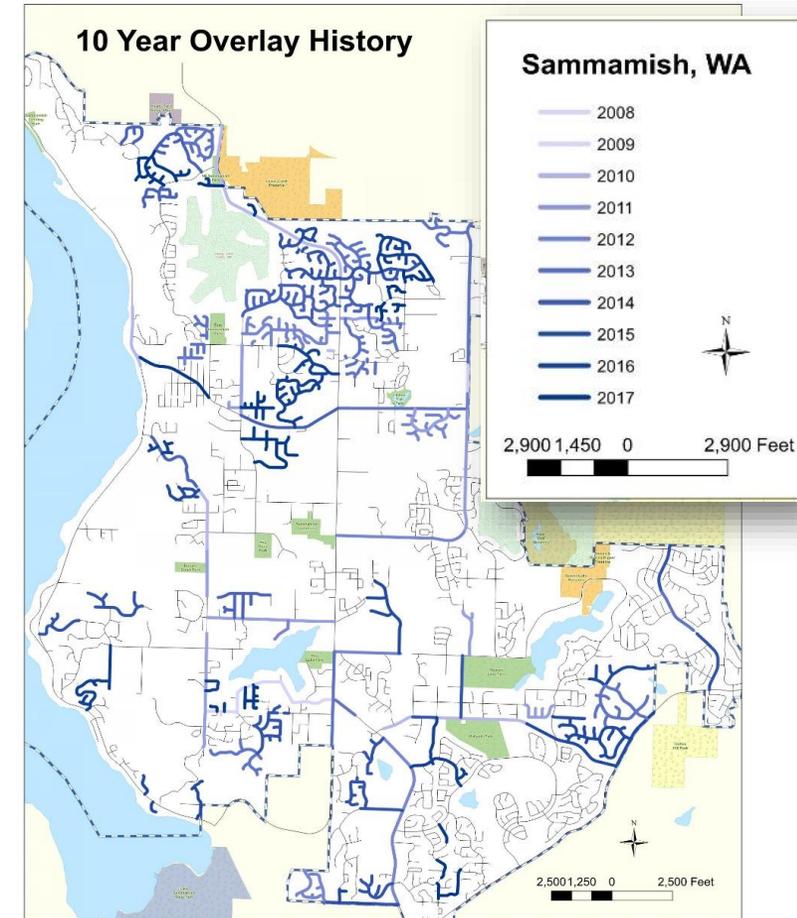


# Sammamish Overlay History

- 72 miles paved since 2008.
  - 35% of current network.
- About 8.5 road miles paved annually since 2010.

## Paving Target:

204 Miles over 20 years  
 ≈ 10 miles per year



# Pavement Overlay (~\$2.5M)

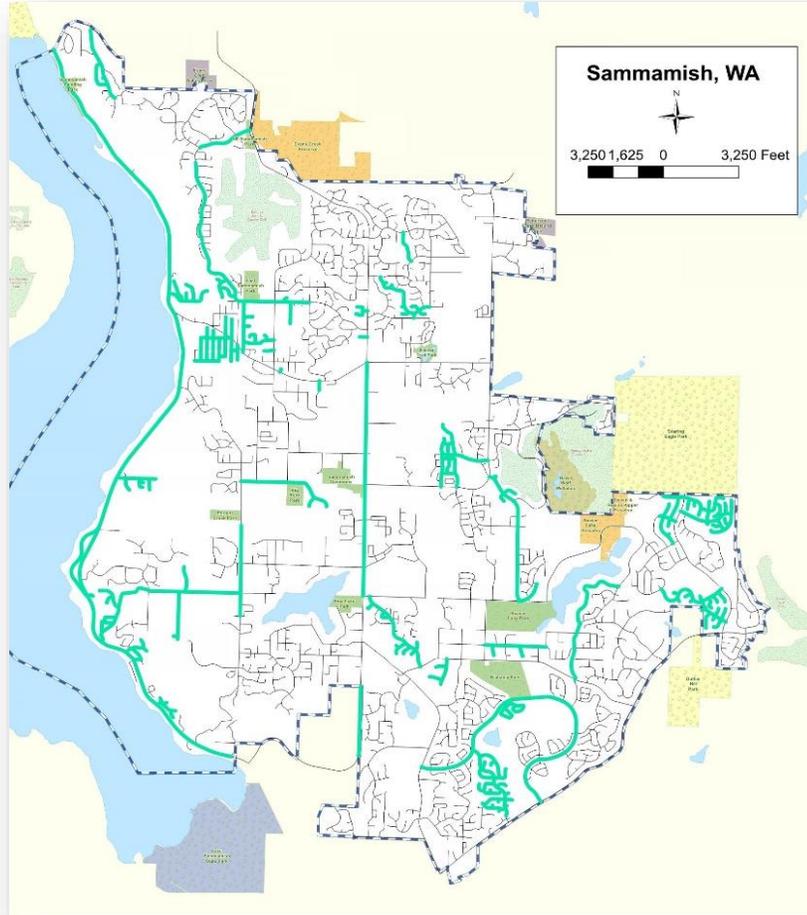
- Paving 1.5” to 2” of Hot Mix Asphalt.
- Additional 15-20 years of pavement life.

## Purpose:

- Drive smoothness → Pleased residents



# 5-Year Overlay Plan

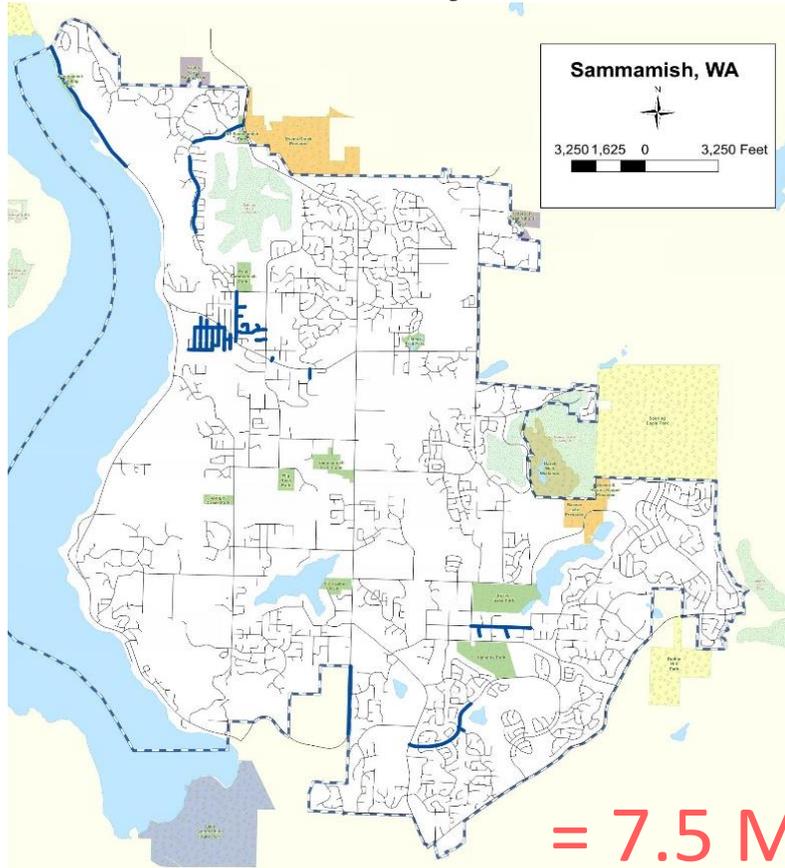


**2018-2022 Overlay Locations**

**= 43 Total Miles**

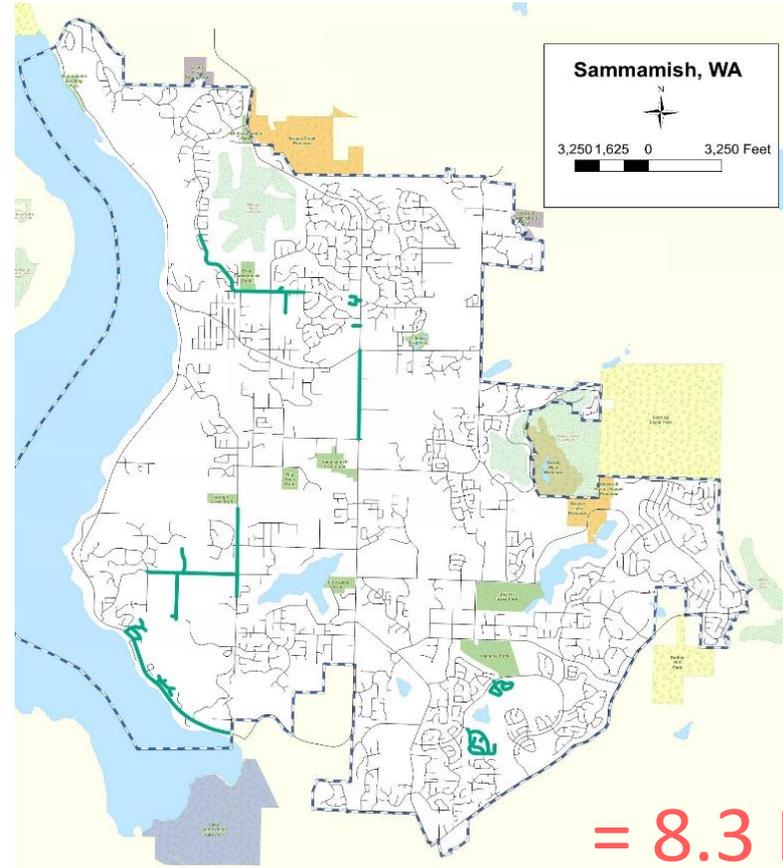
# Overlay Plan for 2018 - 2019

### 2018 Overlay Streets



= 7.5 Miles

### 2019 Overlay Streets



= 8.3 Miles

# Curb Ramp Retrofit (~\$700k)

- 230+ ramps over the past two years.
- Ramps are becoming an increasing part of the program budget.

## Purpose:

- Federal ADA Law → ALL ramps must be updated.



# Pavement Patching (~\$200k)

## Purpose:

- Prepare for the following year's overlay.
- Repair locations where failures are localized and no overlay is anticipated.



## Agenda Bill

City Council Study Session

March 13, 2018



<b>SUBJECT:</b>	Issaquah Fall City Road - 242nd AVE SE to Klahanie DR SE, Project Update											
<b>DATE SUBMITTED:</b>	March 07, 2018											
<b>DEPARTMENT:</b>	Public Works											
<b>NEEDED FROM COUNCIL:</b>	<input type="checkbox"/> Action <input checked="" type="checkbox"/> Direction <input type="checkbox"/> Informational											
<b>RECOMMENDATION:</b>	Receive project update and discuss road closure and construction options.											
<b>EXHIBITS:</b>	<a href="#">1. Exhibit 1 - IFCR Council Memo</a> <a href="#">2. Exhibit 2 - IFCR Vicinity Map</a> <a href="#">3. Exhibit 3 - IFCR Council Presentation</a>											
<b>BUDGET:</b>	<table> <tr> <td>Total dollar amount</td> <td>\$0</td> <td><input type="checkbox"/> Approved in budget</td> </tr> <tr> <td>Fund(s)</td> <td>N/A</td> <td><input type="checkbox"/> Budget reallocation required</td> </tr> <tr> <td></td> <td></td> <td><input checked="" type="checkbox"/> No budgetary impact</td> </tr> </table>			Total dollar amount	\$0	<input type="checkbox"/> Approved in budget	Fund(s)	N/A	<input type="checkbox"/> Budget reallocation required			<input checked="" type="checkbox"/> No budgetary impact
Total dollar amount	\$0	<input type="checkbox"/> Approved in budget										
Fund(s)	N/A	<input type="checkbox"/> Budget reallocation required										
		<input checked="" type="checkbox"/> No budgetary impact										
<b>WORK PLAN FOCUS AREAS:</b>	<table> <tr> <td><input checked="" type="checkbox"/>  Transportation</td> <td><input checked="" type="checkbox"/>  Community Safety</td> </tr> <tr> <td><input type="checkbox"/>  Communication &amp; Engagement</td> <td><input type="checkbox"/>  Community Livability</td> </tr> <tr> <td><input type="checkbox"/>  High Performing Government</td> <td><input type="checkbox"/>  Culture &amp; Recreation</td> </tr> <tr> <td><input checked="" type="checkbox"/>  Environmental Health &amp; Protection</td> <td><input type="checkbox"/>  Financial Sustainability</td> </tr> </table>			<input checked="" type="checkbox"/> Transportation	<input checked="" type="checkbox"/> Community Safety	<input type="checkbox"/> Communication & Engagement	<input type="checkbox"/> Community Livability	<input type="checkbox"/> High Performing Government	<input type="checkbox"/> Culture & Recreation	<input checked="" type="checkbox"/> Environmental Health & Protection	<input type="checkbox"/> Financial Sustainability	
<input checked="" type="checkbox"/> Transportation	<input checked="" type="checkbox"/> Community Safety											
<input type="checkbox"/> Communication & Engagement	<input type="checkbox"/> Community Livability											
<input type="checkbox"/> High Performing Government	<input type="checkbox"/> Culture & Recreation											
<input checked="" type="checkbox"/> Environmental Health & Protection	<input type="checkbox"/> Financial Sustainability											

### ISSUE BEFORE COUNCIL:

Shall Council reconsider closing Issaquah Fall City Road during construction of the bridge?

### KEY FACTS AND INFORMATION SUMMARY:

The Issaquah Fall City Road project will widen the Issaquah Fall City Road corridor between 242nd Ave SE to Klahanie Dr SE from two to four lanes and construct roundabouts at the 242nd, 247th, and Klahanie intersections. The project design also includes a bridge over the North Fork Issaquah Creek, bike lanes, sidewalks, and a pedestrian crossing to Pacific Cascade Middle School.

The project team has achieved a 60% plan design level, however project costs have risen due to unfavorable construction finance trends (including a 7.8% increase in national annual project construction costs) and a finding of poor soils at the bridge foundations.

The project team has worked to reduce project costs by refining the existing design and looking at a redesign of the bridge superstructure to eliminate a row of girders. The team has identified an estimated \$3.9 million in costs savings if the bridge is built with a full road closure between 247th and Klahanie Dr. SE. Additional sequencing details will be provided at the meeting for Council consideration.

The current plan design keeps the roadway open between 247th Ave SE and Klahanie Dr SE, resulting in an estimated 18-month bridge construction time and a total project construction cost of \$26.2 million. The proposed alternative closes the road between 247th and Klahanie Dr. SE, for an estimated seven (7) month bridge construction and a project construction cost estimate of \$22.3 million. This decision does not affect total project construction time, which remains 18 to 24 months regardless of road closure adjustments.

Please see the attached memo for additional project background and information.

#### FINANCIAL IMPACT:

There is a \$3.9 million construction cost difference between the two options presented.

#### OTHER ALTERNATIVES CONSIDERED:

**Option 1:** Keep the road open during bridge construction and proceed to 90% design.

**Option 2:** Close the road during bridge construction, update the bridge design, and proceed to 90% design.

Advantages and drawbacks of both options will be presented at the meeting.

#### RELATED CITY GOALS, POLICIES, AND MASTER PLANS:

[Comprehensive Plan Goal T.2](#), Greater Options and Mobility  
[2018-2023 Transportation Improvement Plan](#), Project TR-07



## Memorandum

---

**Date:** March 2, 2018

**To:** City Council,  
Lyman Howard, Deputy City Manager

**From:** Steve Leniszewski, Public Works Director  
Andrew Zagars, City Engineer  
Sam Park, Senior Project Engineer

**Re:** Issaquah Fall City Road Phase 1 Project Update  
March 13, 2018 Presentation to Council

---

### Summary

At the March 13, 2018 meeting, City and consultant staff will be providing Council with an update on the Issaquah Fall City Road Improvement project. This update will provide Council with a project status including a brief project history, project construction cost estimates, value engineering performed to date, and information about a cost reduction opportunity reconsidering a roadway closure during bridge construction. The City staff is looking to the council to provide guidance on whether to move forward with closure of the roadway, between 247th Pl SE and Klahanie Drive SE.

### Project Details and History

The improvements along Issaquah Fall City Road between Issaquah Pine Lake Road and Issaquah Beaver Lake Road became a priority project for the City with the incorporation of the Klahanie neighborhood. This project has been considered a necessity by King County since the Environmental Impact Study was completed in 1996. Due to the length and complexity of the project, the overall project was separated into two phases. The first phase begins at the western City limits of the roadway at 240<sup>th</sup> Ave SE and the intersection of Klahanie Blvd. The second phase continues from the intersection of Klahanie Blvd to the intersection of Issaquah Beaver Lake Road.

The Issaquah Fall City Road project includes four goals:

1. Improve safety for drivers, cyclists, and pedestrians;
2. Improve operations at intersections;
3. Increase capacity, and;
4. Protect mature trees and environmentally sensitive areas.

On March 22, 2016, the City Council approved the design contract for the first phase of the Issaquah Fall City Road project, between 242<sup>nd</sup> Ave SE and Klahanie Dr SE. The project

included a large public involvement scope that to date has included three public meetings and one detour-planning meeting.

This project will widen Issaquah Fall City Road to four lanes, with a new bridge over the North Fork Issaquah Creek, roundabouts at three intersections, a pedestrian crossing to the Pacific Cascade Middle School, sidewalks, bike lanes, and drainage improvements to meet current standards.

The project has been programmed for construction beginning in the summer of 2018. This is a two-year construction project and would go through the 2019 construction season. Project plans are on track to be completed this summer including permits and right of way.

As part of the design, the consultant has been tasked to include detour planning. This began with a community workshop held on October 26, 2017, to hear from the public and address their concerns related to detour routes and possible road closures. Up until this point, the information shared with the public had stated the City's intention was to keep Issaquah Fall City Road open to one lane of traffic in each direction, thereby not reducing current travel lanes, throughout the construction of the project.

### **Project Funding**

This project is currently funded through City funds and an approved State WSDOT Connecting Washington Grant of \$5 million. The grant is separated into the two phases of the project with \$3.5 million for the first phase of construction and the remaining \$1.5 million for design and construction of Phase II. The City's efforts to secure other grant opportunities for this project have so far been unsuccessful.

Staff recommends pursuing a Transportation Improvement Board (TIB) grant this summer in the amount of \$5 million and extend the project out for a bidding date in January of 2019. This timeline would allow staff to complete the design prior to a grant award, increasing the chance of obtaining the requested funds. Additionally, the bidding environment has shown to be more favorable in the winter and early spring months.

### **History of Design and Construction Cost Estimates**

In November 2014, the project was initiated with a conceptual design construction estimate of \$16.2 million. The project estimate was taken from information provided by King County and included a five-lane roadway, two traffic lights, a fish passable culvert at North Fork Issaquah Creek, sidewalks, illumination, and project landscaping.

During the initial preliminary designs of the project, a planning level, 15% design estimate of \$20.3 million was presented to the City Council on February 7, 2017, in order to determine if the design was to proceed with a bridge or culvert crossing. The approved preliminary design included a bridge section, three (3) roundabouts, a four-lane roadway section, bike lanes with buffers, sidewalks, illumination and project landscaping.

As the design proceeded, a 30% preliminary design included a revised construction estimate of \$23.1 million in June, 2017. Additions to the project design that increased the

overall estimate included a signalized pedestrian crossing and ramp up to Pacific Cascade Middle School, changes to the initial stormwater design, and increased design for the bridge and retaining walls. The bridge and wall costs were calculated using preliminary geotechnical soil information.

The 60% intermediate design level construction estimate increased again to \$27.8 million. This estimate included bridge and wall designs based on soil conditions verified and recommended by the geotechnical engineer, intermediate irrigation, landscaping, traffic control to keep the road open during construction, drainage facilities, storm drainage water quality facilities, and environmental mitigation plans. Contributors to the higher costs included poor existing soil conditions that impact bridge foundations, retaining walls, and road design, and an increase in national and local bid prices due to relative economic prosperity.

As a result of increasing estimated project costs, staff required the design team to perform value engineering review to look at all options, including but not limited to roadway closure, to reduce project costs. This review was performed by the design consultant and a regional contractor familiar with bridge and roadway projects. Project savings were found through reducing bridge and roadway widths, modifying the roundabout design, reducing landscaping and irrigation in medians, and reducing the amount of walls. As a result, the project construction estimate has been reduced to \$26.2 million.

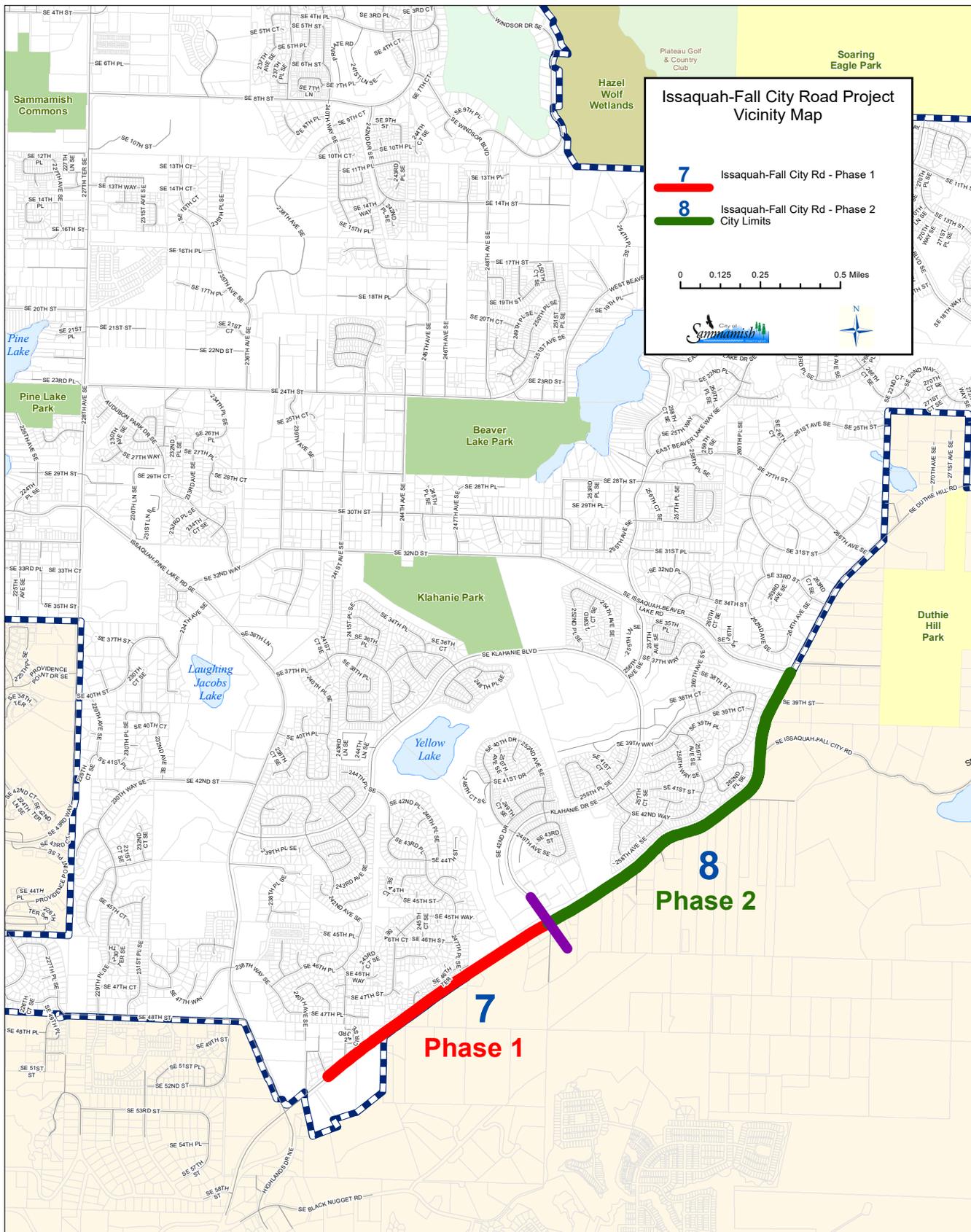
During the value engineering review, it was determined that construction staging and traffic control made up a significant portion of the construction estimate increases. In order to keep traffic open during the construction of the bridge crossing, a temporary roadway and modifications to bridge design are required. The additional bridge design includes additional pile supports, an extra bridge girder, and temporary shoring walls.

It was determined that a roadway closure during the bridge construction would lower the \$26.2 million construction estimate to \$22.3 million. The \$3.9 million reduction is a result of the elimination of the items needed to maintain traffic during construction. In addition to reducing costs, closure of the roadway will decrease the estimated construction time of the bridge. With the road kept open, it will take an estimated eighteen (18) months to construct the bridge. With a roadway closure, the bridge is estimated to be constructed within seven (7) months.

Please note, as with all construction projects, the final project cost and schedule will remain undetermined until a contract bid is received and a complete schedule is provided. Until that time, project estimates are accompanied by a contingency amount. The latest construction estimate includes a contingency increase of 10%.

#### **Direction to Proceed**

Staff is seeking direction from Council whether to pursue the TIB grant, resulting in moving the bid announcement to January of 2019, and whether to reconsider a closure of the roadway between 247th Pl. SE and Klahanie Dr. SE for bridge construction.



BM: IssaquahFallCityRd\_ProjectExtents.mod 2-15-2018



# Issaquah-Fall City Road Project Update

**City Council Meeting  
March 13, 2018**





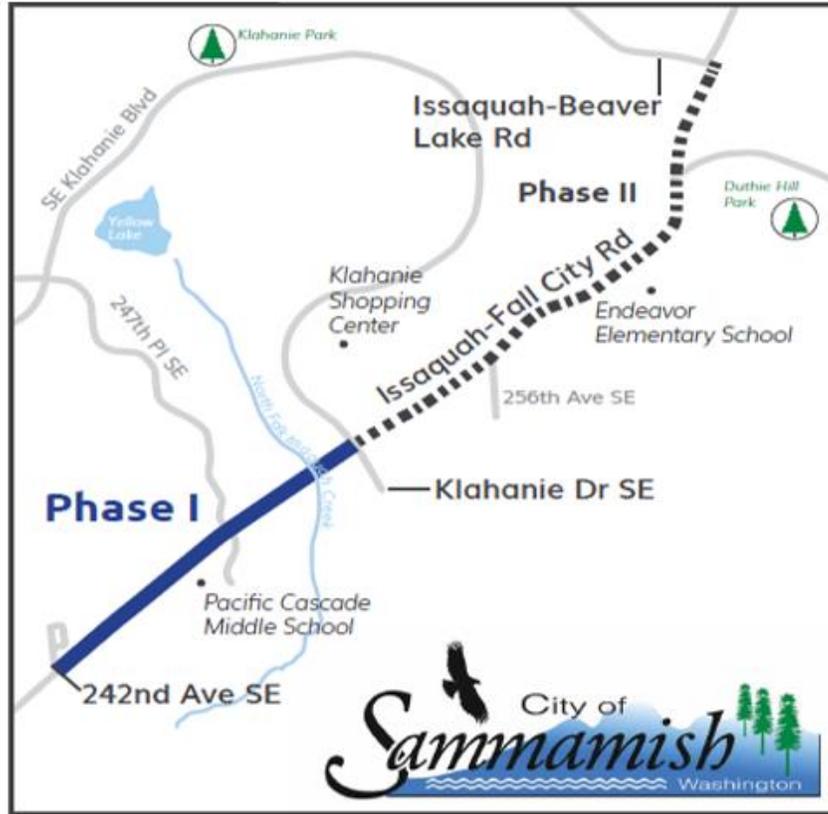
# Meeting Agenda

- Introductions
- Schedule
- Cost Implications
- Factors Driving Cost
- Actions Taken
- Potential Cost Savings
- Discussion
- Direction from Council



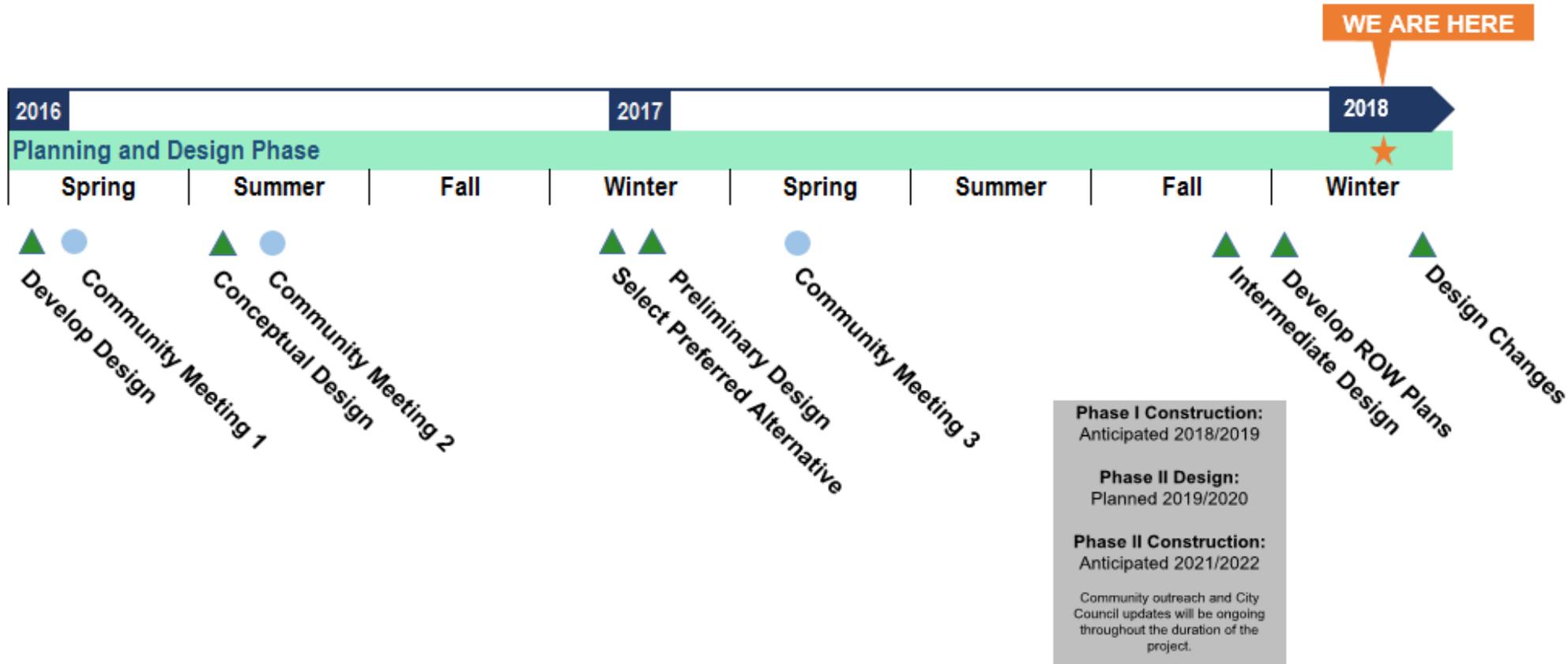


# Project Overview – Congestion Relief & Safety



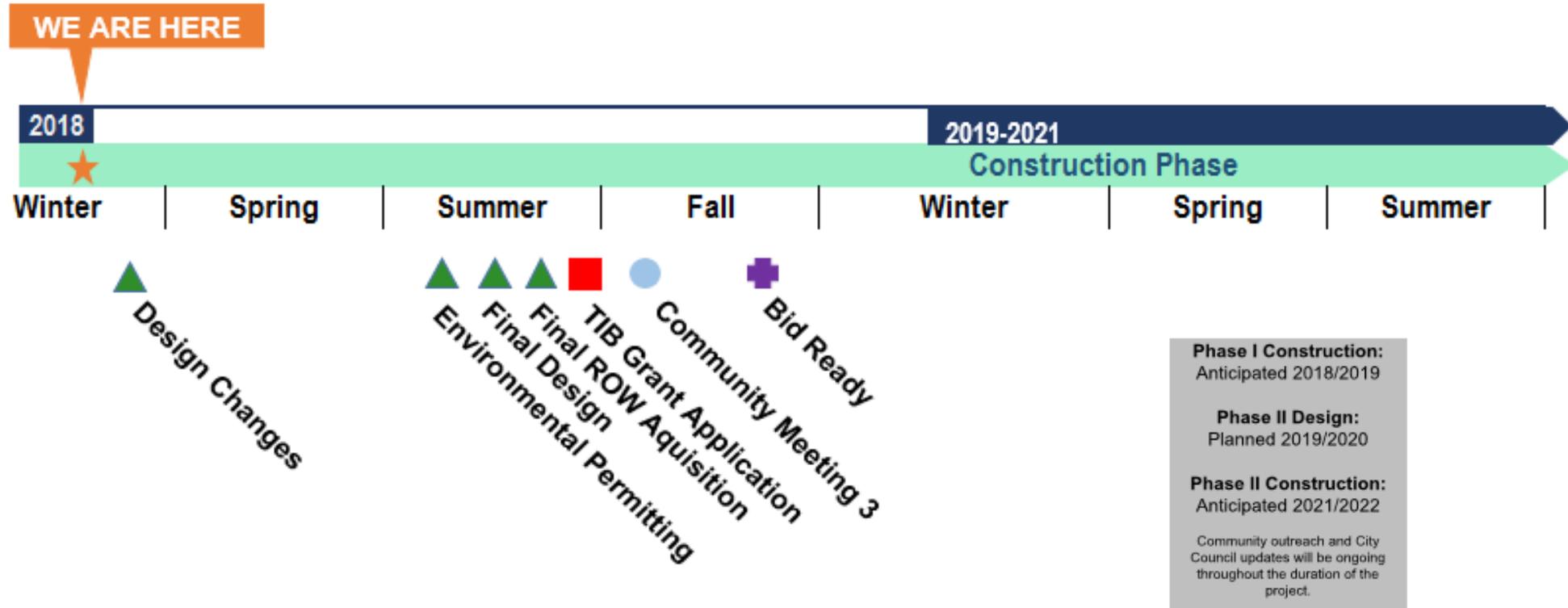


# Project Timeline





# Project Timeline





# Preliminary Estimates of Probable Construction \$<sup>6</sup>

## Estimates include Construction Activities only

<b>Conceptual Design Estimate (Nov., 2014)</b>	<b>\$16.2 Million</b>
<b>Planning Level Estimate (Feb., 2017)</b>	<b>\$20.3 Million</b>
<b>Preliminary Design Estimate (June, 2017)</b>	<b>\$23.1 Million</b>
<b>Intermediate Design Estimate</b>	<b>\$27.8 Million</b>



# What Changed – Conceptual to Preliminary?

1. Changed Intersection Types to Roundabouts
2. Selected Bridge to Replace Culvert
3. Selected Landscaped Medians, Irrigation, and Bike Lane Buffers





# What Changed – Preliminary to Intermediate Design?

- Increased Median Width – Adding Walls
- Changed Drainage Design to Relocate Proposed Pond
- Geotech Report – Poor Soils Impacts Bridge Foundations
- Prosperity – Good Economy Increasing Unit Prices (FHWA Cost Indices) 7.8% Summer 2017





# What Have We Been Doing to Address Escalation?

- Identified Major Cost Drivers
- Conducted “Mini” Value Engineering Workshop in Lochner
- Engaged Regional Contractor to Review Approach & Identify Potential Savings





# Potential Cost Savings

## Focused on Major Cost Drivers

- Bridge Design & Construction Methods
- Reduced Roadway Cross Section
- Walls – Number & Type
- Intersections – Design Modifications





# Current Plan – Stay the Course

<b>Cost</b>	<b>\$26.2 Million</b>
<b>Schedule</b>	15 to 18 months For Bridge Construction
<b>Issues</b>	<ol style="list-style-type: none"> <li>1. Construction Estimate Over Budget</li> <li>2. Keeps Roadway Open During Construction</li> <li>3. Construction Estimate includes Potential Cost Savings from Redesign</li> <li>4. Some Traffic Will Avoid Construction</li> </ol>





# Preliminary Estimates of Probable Construction \$

## Estimates include Construction Activities only

Conceptual Design Estimate (Nov., 2014)	\$16.2 Million
Planning Level Estimate (Feb., 2017)	\$20.3 Million
Preliminary Design Estimate (June, 2017)	\$23.1 Million
Intermediate Design Estimate	\$27.8 Million
<b>Current Plan – Stay the Course</b>	<b>\$26.2 Million</b>



## Alternative – Close the Road

<b>Cost</b>	<b>\$22.3 Million</b>
<b>Schedule</b>	6 to 7 months closure For bridge construction
<b>Issues</b>	<ol style="list-style-type: none"> <li>1. Reduced Construction Cost</li> <li>2. Shorter Bridge Construction Schedule</li> <li>3. Reduces Number of Impacted Trees</li> <li>4. All Traffic Must Detour</li> </ol>





# Preliminary Estimates of Probable Construction \$

## Estimates include Construction Activities only

Conceptual Design Estimate (Nov., 2014)	\$16.2 Million
Planning Level Estimate (Feb., 2017)	\$20.3 Million
Preliminary Design Estimate (June, 2017)	\$23.1 Million
Intermediate Design Estimate	\$27.8 Million
<b>Current Plan – Stay the Course</b>	<b>\$26.2 Million</b>
<b>Alternative – Close the Road</b>	<b>\$22.3 Million</b>



# Funding

## Transportation Improvement Board

- **2017 Application**
  - **\$5M Request**
  - **Missed by One Point**
  - **“Shovel Readiness”**
- **2018 Potential Application**
  - **Due, August of 2018**
  - **Award, November of 2018**
  - **Funds Available, January of 2019**





# Next Steps

---

## Looking For Council Direction to:

- **Stay the Course with Roadway Design Modifications, or**
- **Approval to Close the Roadway for Bridge Construction**



# Discussion

