

Piloting Change

Using **Adaptive Engineering** to **Unlock**
Multimodal Transportation Solutions



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Overview

- 01. City of Bellingham
- 02. Story of Two Pilots
- 03. Comparing Approaches
- 04. Strategies for Success

Bellingham

Homelands of the Coast Salish Peoples

Compact Urban Core and Waterfront

Promoting Safety, Equity & Connectivity
~98,000 residents



**Gold-Level Bicycle
Friendly Community**
100+ miles of
bike facilities

Whatcom County Seat

Last major city
before the Canadian
border



Strong Multimodal

Policies
Prioritize most
vulnerable users



Why Pilot Projects?



Holly and Eldridge At a Glance



Two Projects with Unique Barriers

Comparing the Corridors

	Holly Street	Eldridge Avenue
Context	Major Arterial in the heart of downtown	Secondary Arterial commuter route
Concerns	Safety, loss of travel lane, congestion	Loss of street parking, pavement condition
Impacts	Modeling insufficient; further study needed	Quantifiable, predictable operations
Goals	Demystify corridor and evaluate feasibility	Build confidence and gain buy-in

Pilot Case Study #1

Eldridge Bike Lane & Street Parking Removal



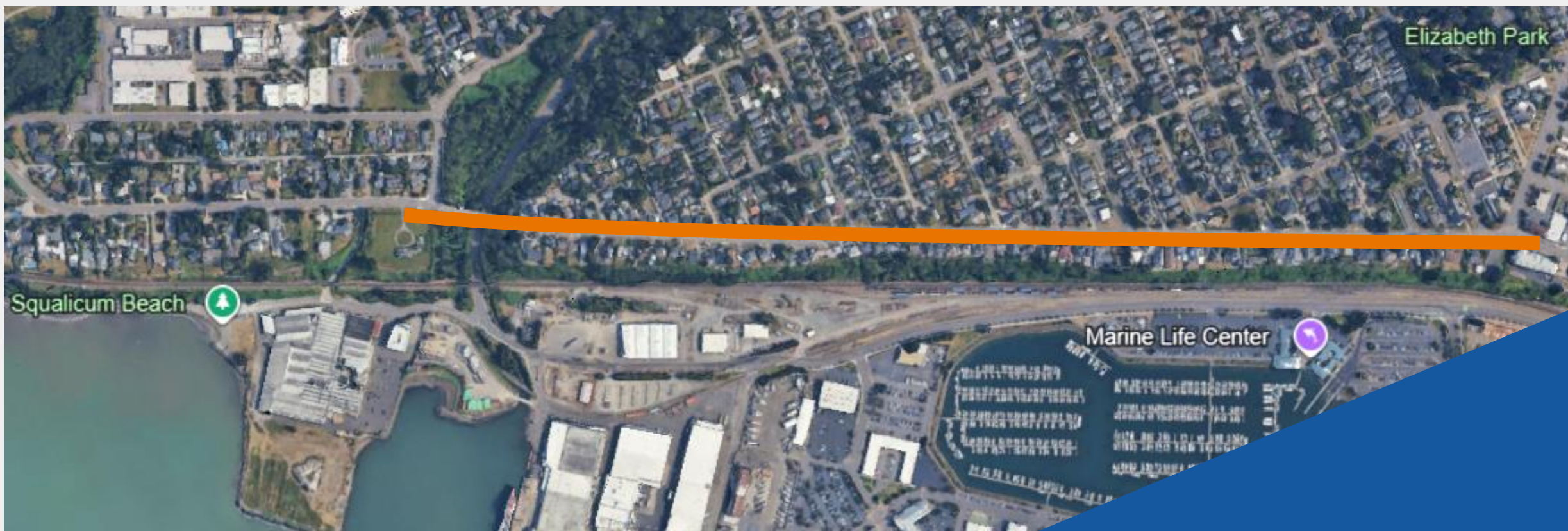
**1 Mile of Secondary
Arterial Roadway**
Connects Rural areas
to Downtown



**Added Separated
Bike Lanes**
Required Full Street
Parking Removal



**Added 4 Enhanced
Crossings w/ RRFBs**
Updated for Visibility
and Accessibility



Key Takeaways



**Pilot approach
provided lower-
risk path for
implementation**



**The project would
have benefited
from better data

~30% increase in
bike and ped usage
still observed**



**60.8% of survey
respondents agreed
that the project
improved comfort
for cyclists and
pedestrians**



**City Council Voted
Unanimously to
Make Project
Improvements
Permanent**

Pilot Case Study #2

Holly Street Bike Lanes



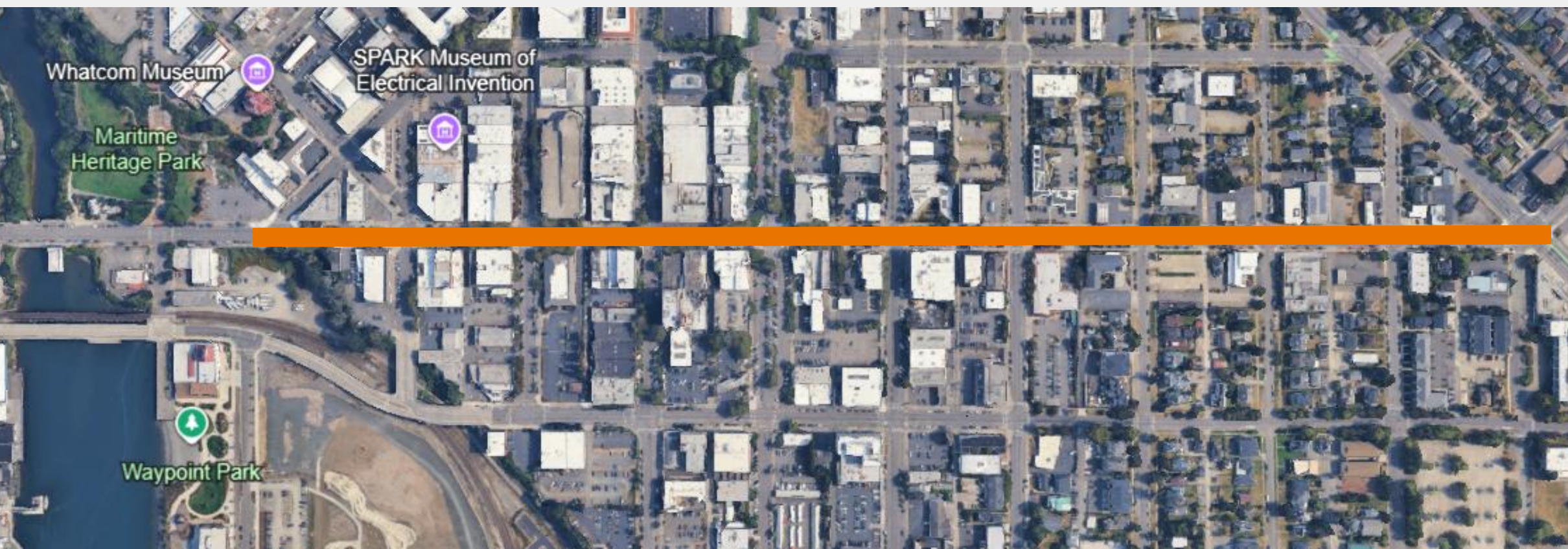
.6 Miles of Principal
Arterial Roadway
Hardest Working
Street in the City



Necessary to
Experiment
Balancing Many
Competing Needs



Iterative
Improvements
Lessons Now
Informing Final Design



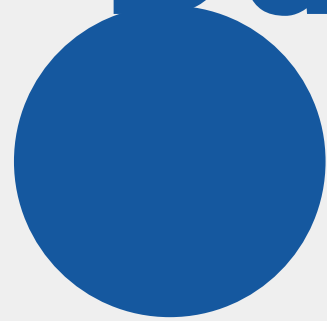
Response and Improvements

During Pilot



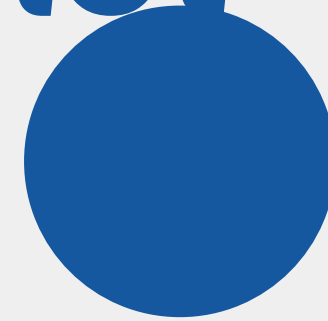
“Right Hook” Conflicts

Observations and
feedback showed
concerns with
visibility



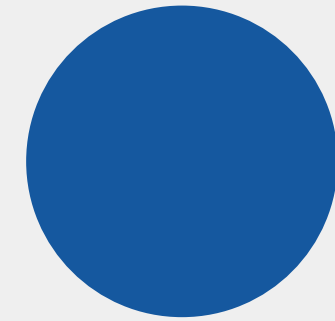
Adjusted Cycle Length

Find balance
between slower
speeds and efficient
travel times



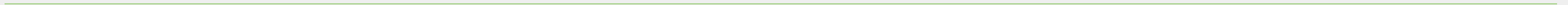
Rechannelized Key Intersection

Adjusted layout and
lane integration at
key bottleneck to
address congestion



Switch to Buffered Lanes

Data showed
parking protection
contributed to right
hook conflicts



Key Takeaways



Bicycle usage has increased more than 60% since project completion, now most heavily used bike route through downtown



87% utilization rate shows a clear preference to ride in the bike lane versus mixing with vehicles in the traffic lane



Iterative signal timing mitigated capacity reductions while also reducing vehicle speeds



Challenging to fully address conflicts with paint and post infrastructure highlighting the need for a capital project

Two Flavors of Pilots

Comparing the Approaches

	Holly Street	Eldridge Avenue
Motivation	Resolve engineering and operational challenges	Address community and city leadership concerns
Major Unknowns	System performance and safety	Community and parking impacts
Data Needs	Extensive	Moderate
Feedback Timing	Continuous	After adjustment period



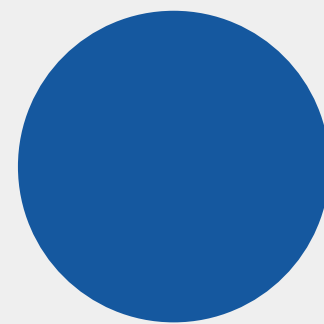
Two Flavors of Pilots

When to Consider Each Approach

	Holly Style	Eldridge Style
Context	Corridor complexity is high	Strong community concerns exist
Barrier	Operational impacts are uncertain	Decision-makers need a lower-risk pathway
Operations	Safety outcomes need validation	Impacts are fairly straightforward
Challenge	Modeling alone cannot answer critical questions	Whether community will accept tradeoff for loss of street parking

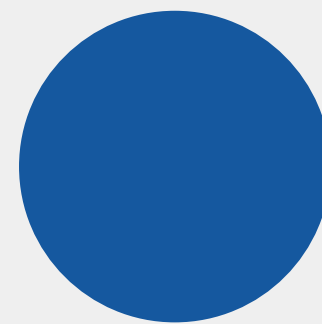


Common Elements of Successful Pilots



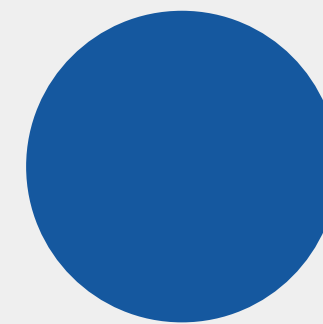
Has a Clear Purpose

Know which
questions the pilot is
trying to answer



Collects High Quality Data

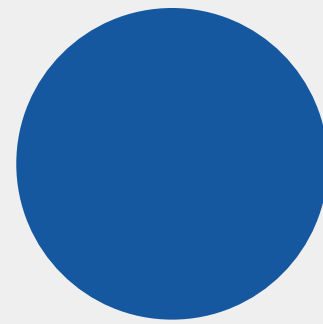
Thorough baseline data
is critical to evaluate
and demonstrate
impacts



Defined Metrics of Success

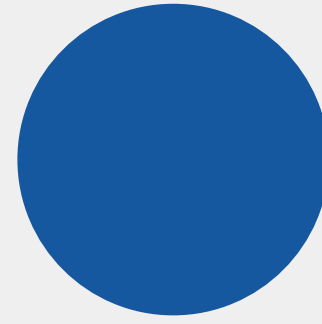
Align on evaluation
criteria before
implementation

Common Elements of Successful Pilots



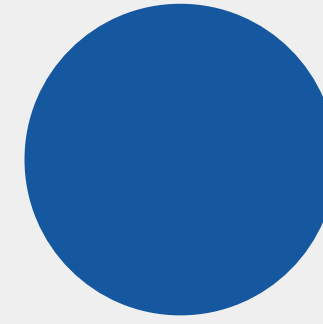
Robust Comms & Outreach

Develop engagement plan to involve residents early in process, build trust + promote buy-in



Focus on Learning

Remain open to unexpected lessons while grappling with data and community feedback



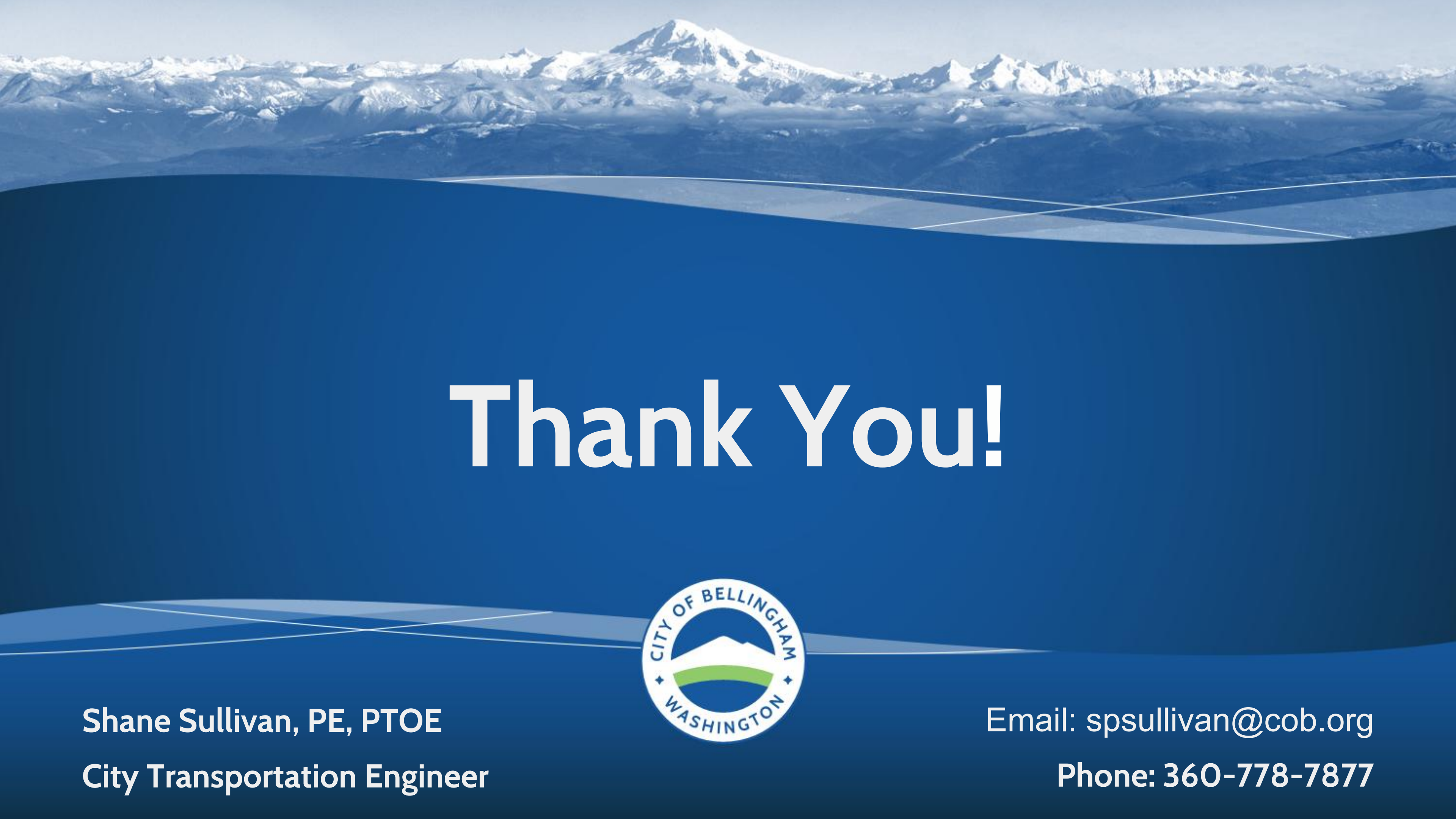
Responsive to Input

Let the data guide future decisions and inform design refinements

Overcoming Barriers with Adaptive Engineering

- **Test** multimodal safety designs
- **Evaluate trade-offs:** parking removal, lane reductions
- **Collect data** to inform permanent improvements
- **Engage the public** in real-world transportation planning





Thank You!



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