Division Transit Project Alignment Analysis

Fitting Big BRT in the Small Starts Box: Planning BRT in a Constrained Corridor

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What does BRT mean for your project?

- There is no single definition of BRT, but rather a range of solutions
- Even the terms have a range
  - Bus Rapid Transit (BRT)
  - High Capacity/Performance Transit (HCT/HPT)
  - Enhanced Bus Service
- US: BRT core elements
  - Priority
  - Longer stop spacing
  - Faster boarding
  - Station amenities

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Funding your project

- FTA Small Starts
  - Total project cost < $300M with Federal match < $100M
  - Fixed guideway or Corridor-based (can be mixed traffic)
  - Keeping total project cost < $175M simplifies the federal review process
  - Usually BRT or Streetcar
- FTA New Starts
  - Total project cost ≥ $300M with Federal match ≥ $100M
  - > 50% Fixed guideway system (LRT, commuter rail, BRT)

FTA Expectations

- Small Starts (<$300M)
  - Separated right-of-way not required for entirety of corridor
  - Makes a substantial investment in a specific corridor
  - Defined stations
  - Traffic signal priority for buses
  - Short headway times
  - Required minimum service hours
- New Starts (>$300M)
  - All of the above
  - Majority of project operates in a separated right-of-way dedicated for public transportation use (Rail or true BRT)

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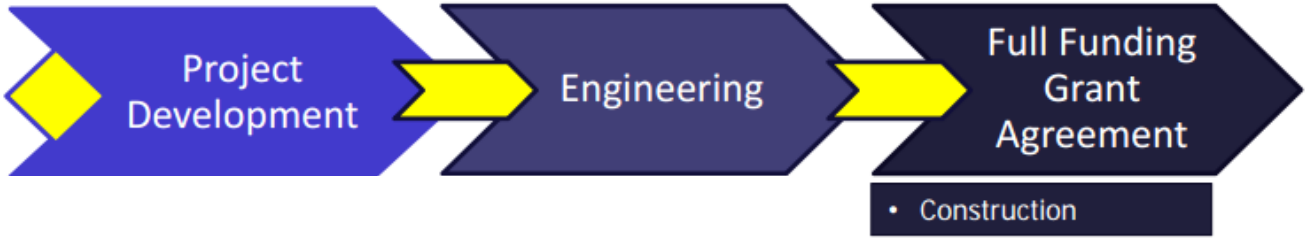
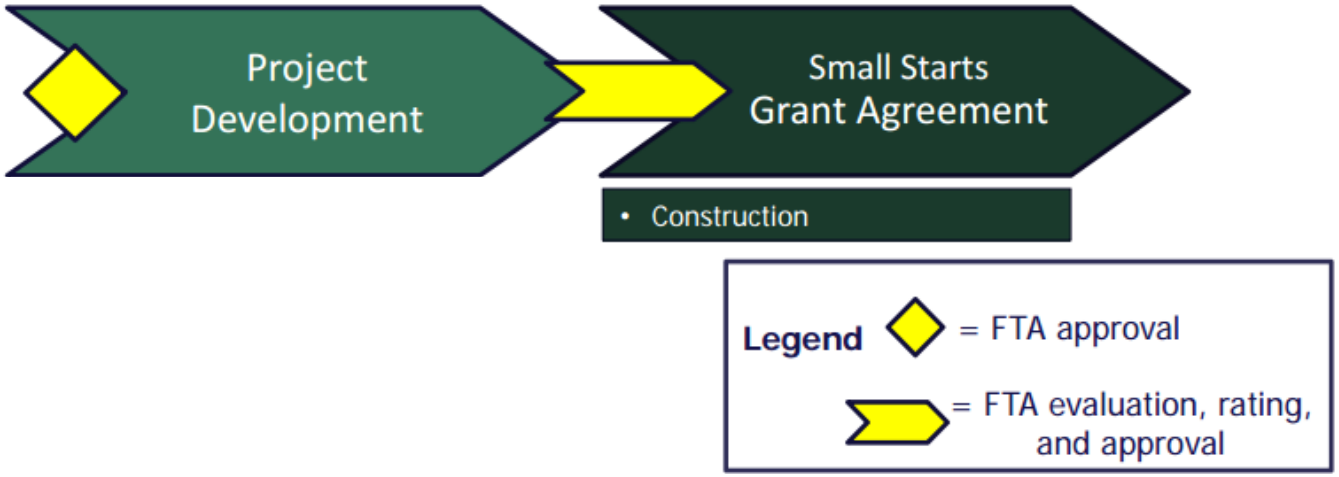
Funding your project

New Starts and Core Capacity Process



Small Starts Process



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Project definition

- Project scoping should include and document agency priorities
- Opportunities to take lanes? Parking?
- What enhancements will BRT project be responsible for? Sidewalks? Bike facilities?
- Cost implications are an order of magnitude.
  - Restriping for bus lanes costs little (<$1M/mile)
  - Widening for bus lanes can cost lots (>$25M/mile)

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Division Transit Project Key Facts

- Agency/Partner's first BRT project
- 14 mile corridor with 40 stations
- 1/3 mile station spacing
- Congested traffic corridor
- Constrained right-of-way
- Hard cap budget of $175M total project cost
- Existing bus line over capacity

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Balancing the Budget

Target budget of $175M for 14-mile corridor

- **28% Station platforms**
- **23% Vehicles**
- **18% Engineering/Design**
- 17% Right-of-way (stations and bus lanes)
- 14% Transit signal priority
- **11% Maintenance facility**
- 6% Bus priority lanes
- 5% Utilities

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Select Bus lines

	Miles	Stations/ mile	Cost/ mile	Dedicated?
Portland Division Transit	14	2.6	$12M	Limited BAT lanes
Seattle RapidRide C-D-E-F (4 lines)	46	2.5	3	Very limited
Kansas City MAX Main-Troost (2)	19	2.5	4	~15% BAT lanes (converted)
Cleveland HealthLine	7	4.3	8	~60% dedicated (converted)
Eugene, OR EmX Green	4	2.5	8	~50% dedicated
San Bernardino sbX Green	16	1.0	13	~1/3 dedicated (widened)
Los Angeles Orange	18	0.9	26	Fully dedicated (rail r/w)
Seattle RapidRide G	2.3	4.3	49	Mostly dedicated (converted)

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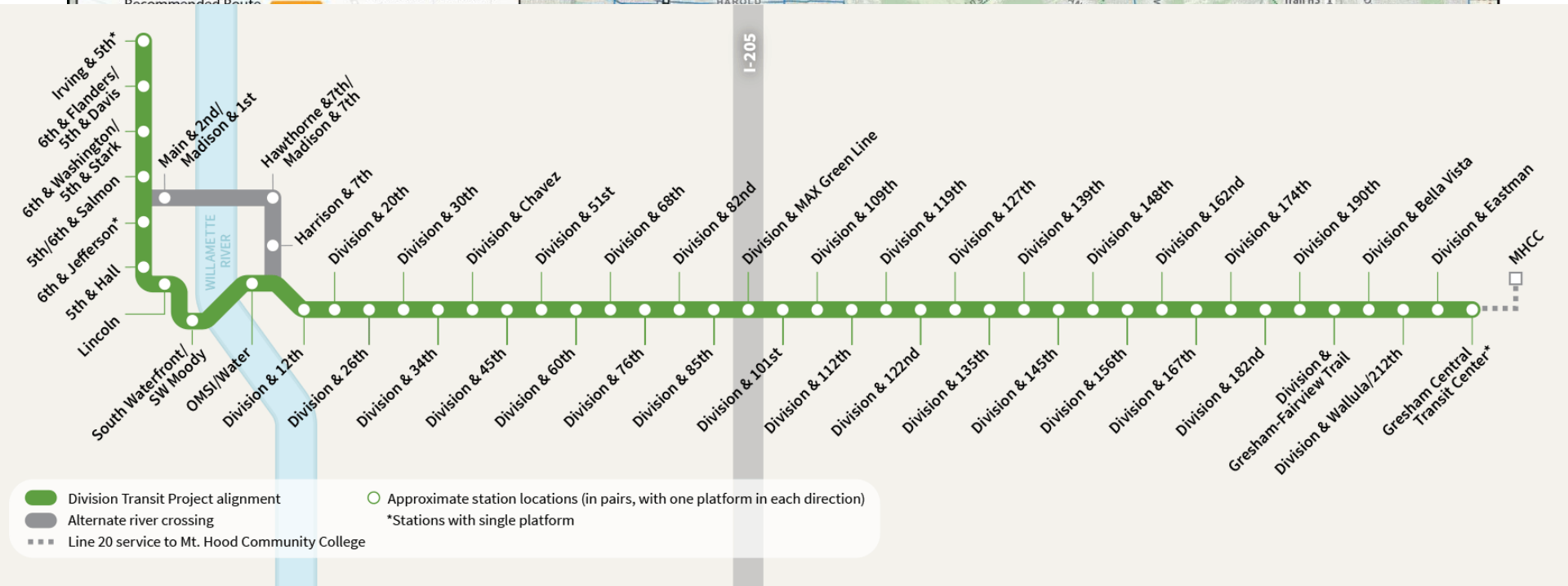
Division Transit Project Overview



Challenges and Constraints

- Multiple agency partners
- Different policies and design standards
- Expectations of the street
- Need to balance conflicting priorities

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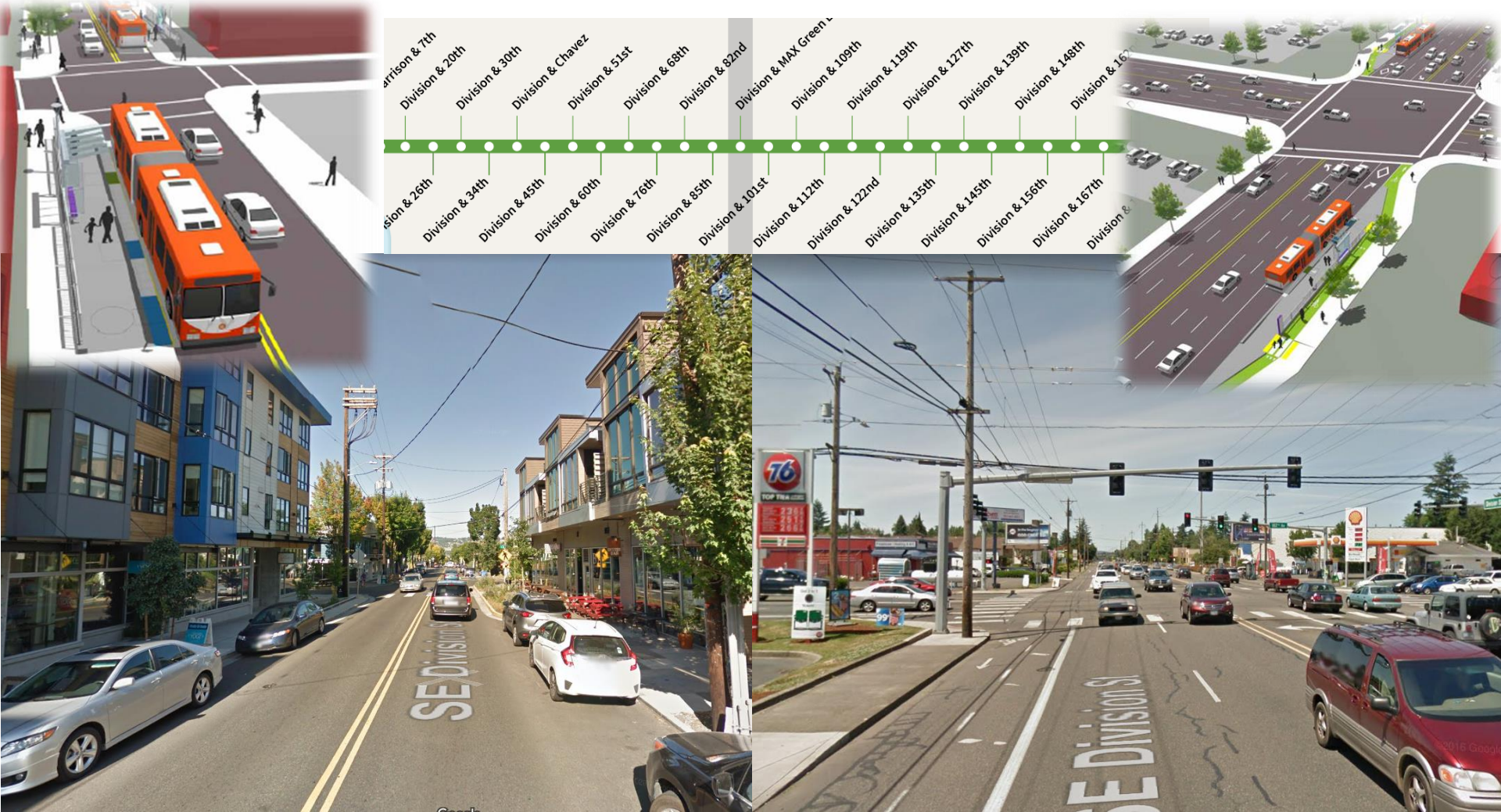
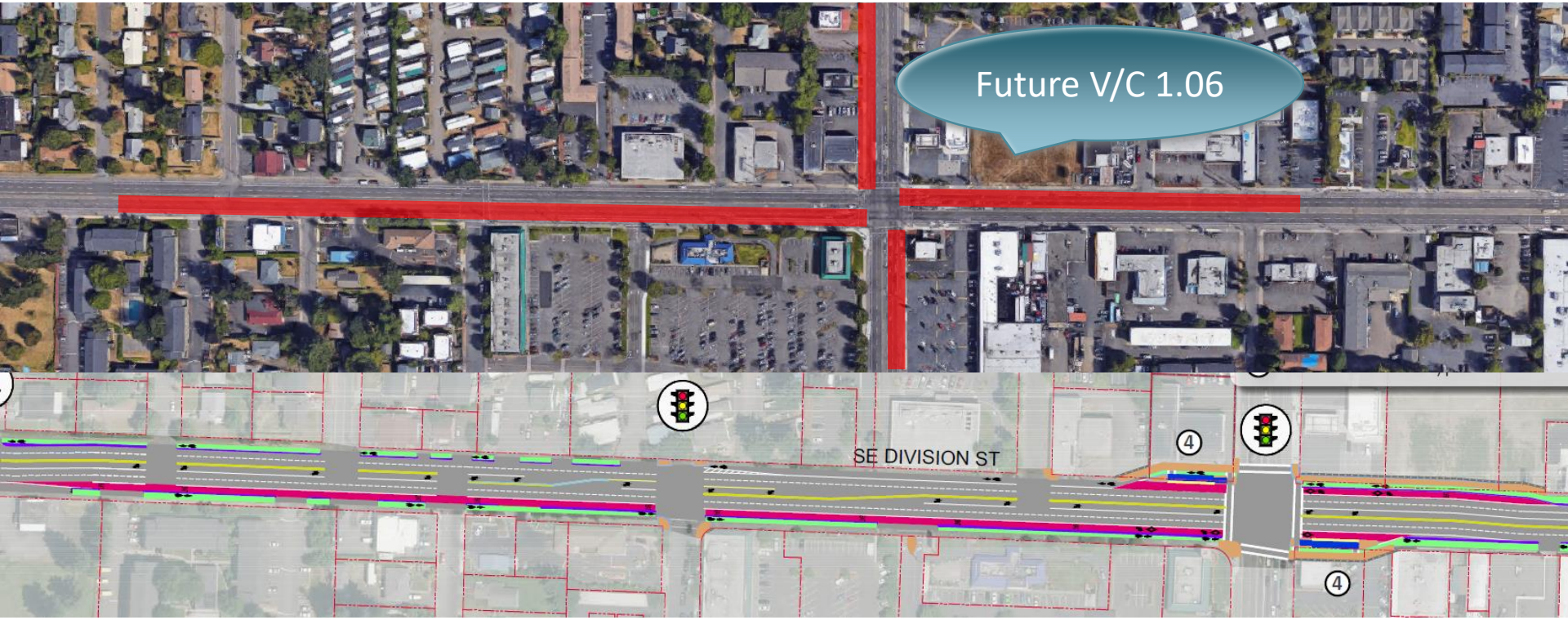
Challenges and Constraints – Right-of-way

- Two different cross-sections



Challenges and Constraints – Traffic

- Major intersection congestion



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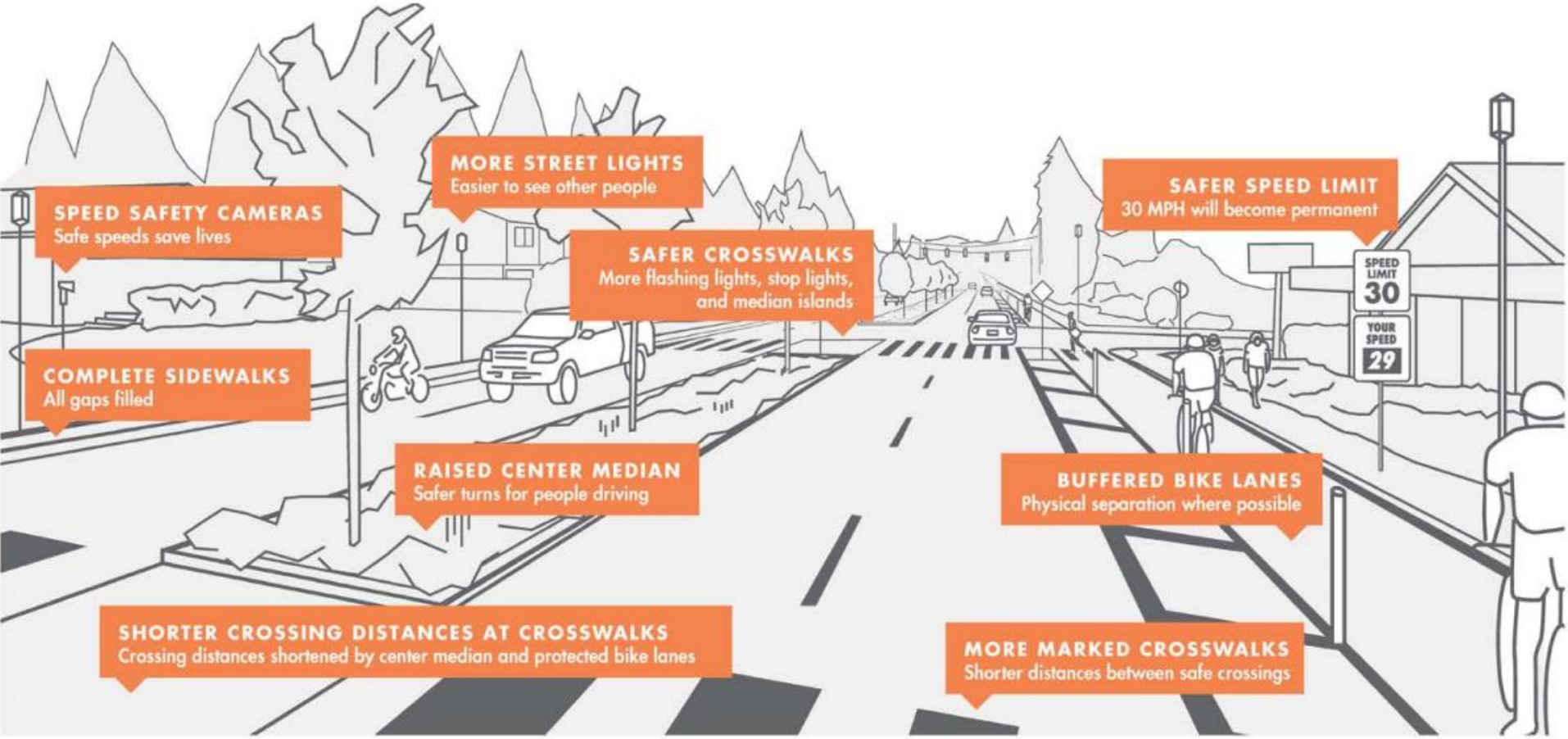
Challenges and Constraints – Safety



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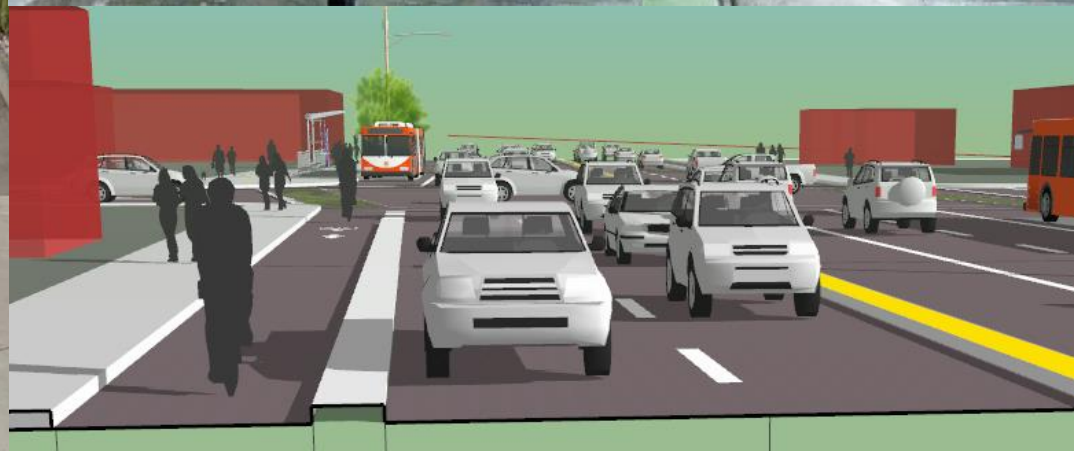
Challenges and Constraints – Ped/Bike



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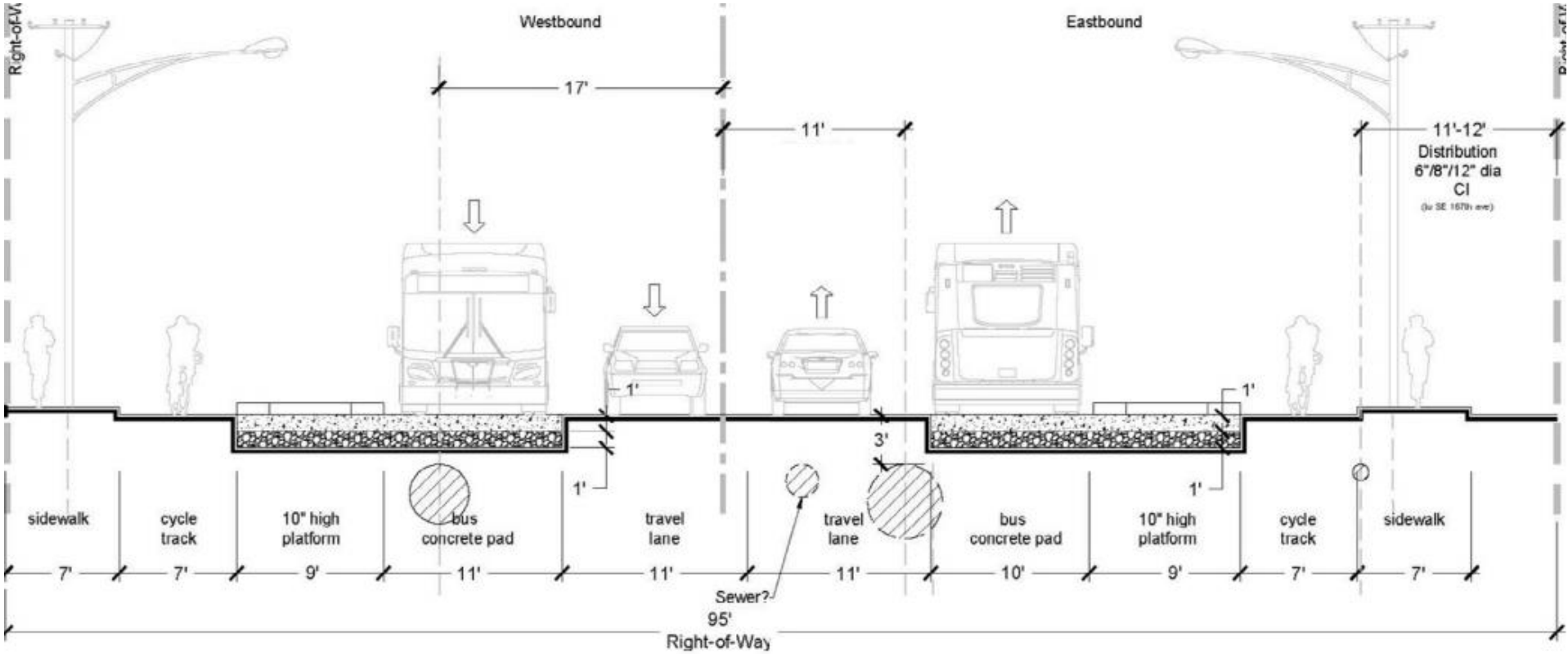
Challenges and Constraints – Ped/Bike

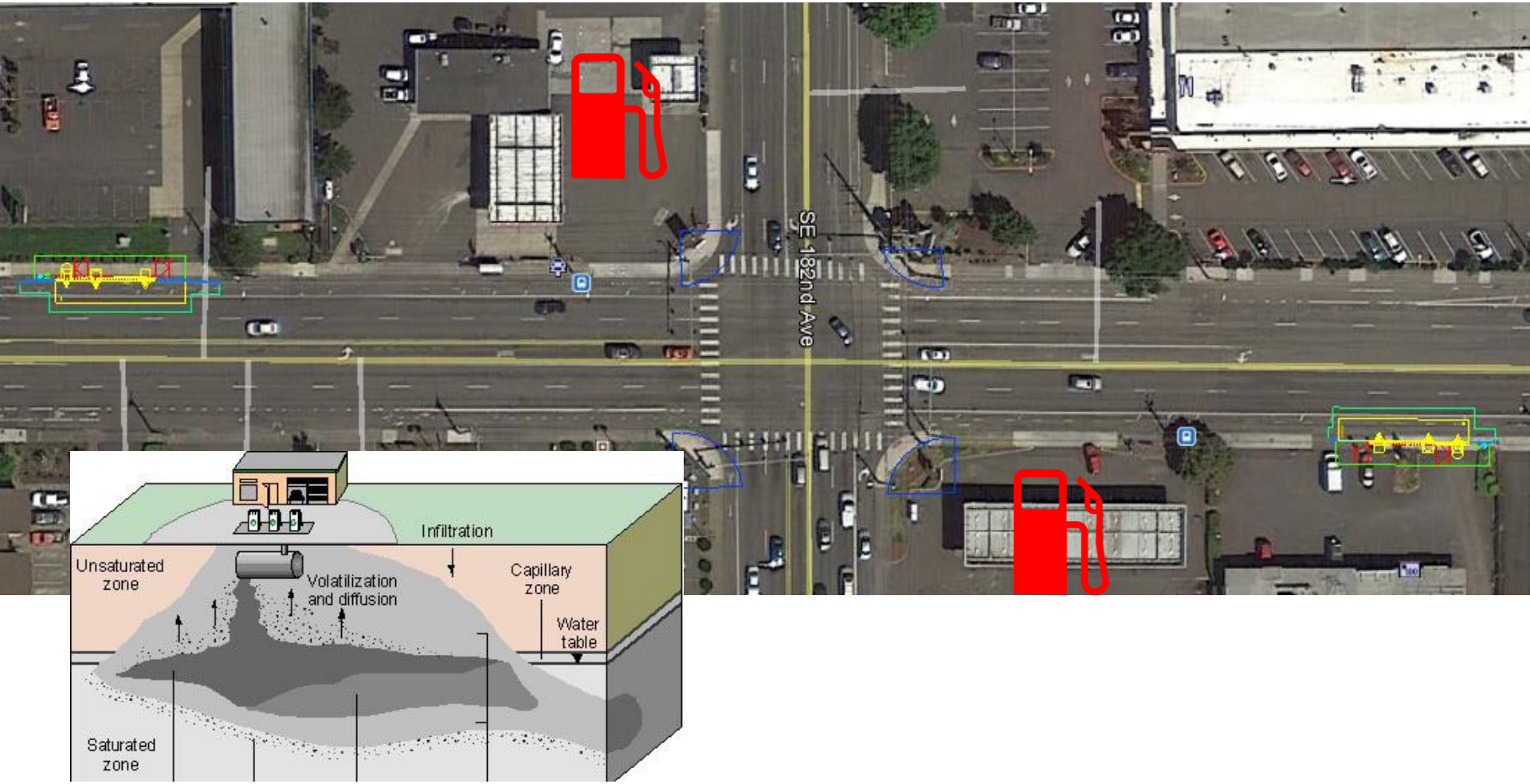
Challenges and Constraints – Utilities/ROW

- Major overhead utilities
- 2 regional water pipelines below



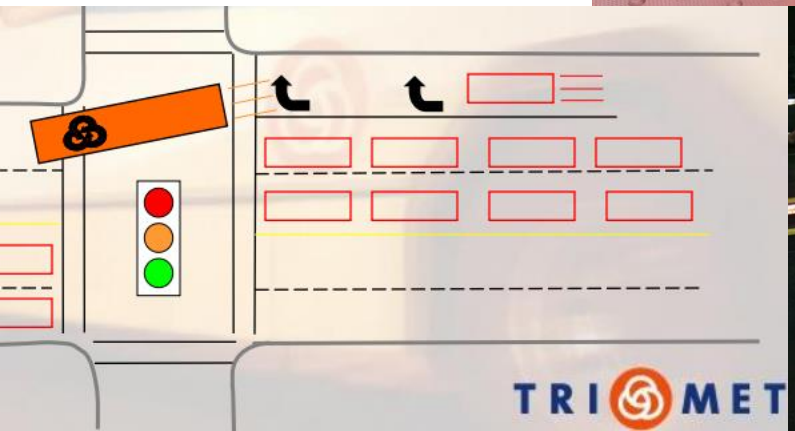
Challenges and Constraints – Traffic

- Gas stations – Don't chase the plume!



Solutions – “Every second counts!”

- Business Access Transit (BAT) Lanes
- Transit signal priority
- Queue jumps
- Level boarding
- On-board bikes
- Pre-paid fare



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Lessons Learned

- Agency partner communication is key!
- Understand related community issues
  - Affordability
  - Gentrification
  - Equity
- Match scale of infrastructure to funding
- Understand impact costs
- Create a better place for all modes!

Questions?

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