



# MAX Red Line Improvement Project



# Type 1 LRV Replacement Program

CAT - November 15, 2017

# Red Line: two goals

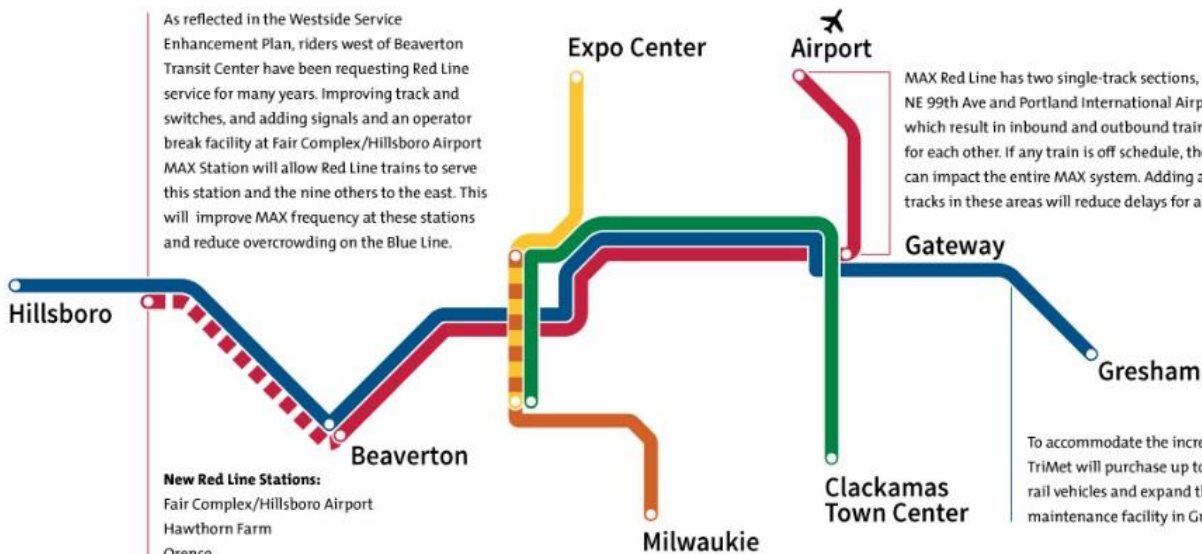
- **Improve system-wide reliability; reduce delays**
- **Add service in Beaverton and Hillsboro; reduce crowding**

# MAX Red Line Improvement Project



Improves on-time performance on all five MAX lines and extends MAX Red Line to ten stations in Beaverton and Hillsboro

As reflected in the Westside Service Enhancement Plan, riders west of Beaverton Transit Center have been requesting Red Line service for many years. Improving track and switches, and adding signals and an operator break facility at Fair Complex/Hillsboro Airport MAX Station will allow Red Line trains to serve this station and the nine others to the east. This will improve MAX frequency at these stations and reduce overcrowding on the Blue Line.



#### New Red Line Stations:

Fair Complex/Hillsboro Airport  
Hawthorn Farm  
Orencia  
Quatama  
Willow Creek/SW 185th Transit Center  
Elmonica/SW 170th  
Merlo/SW 158th  
Beaverton Creek  
Millikan Way  
Beaverton Central

MAX Red Line has two single-track sections, near Gateway/NE 99th Ave and Portland International Airport MAX stations, which result in inbound and outbound trains having to wait for each other. If any train is off schedule, these wait times can impact the entire MAX system. Adding a second set of tracks in these areas will reduce delays for all riders.

To accommodate the increased frequency, TriMet will purchase up to eight new light rail vehicles and expand the Ruby Junction maintenance facility in Gresham.

## Timeline

Design  
**2017–2019**

Construction\*  
**2020–2021**

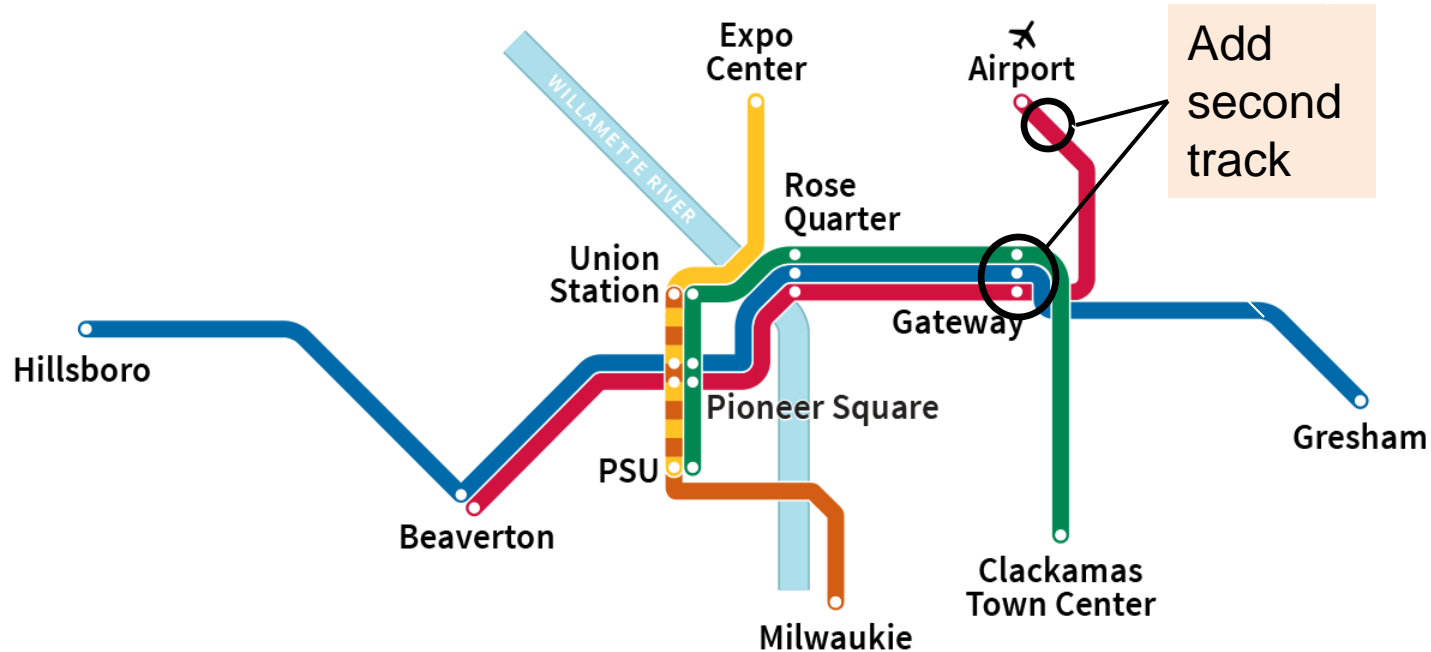
Opening\*  
**2022**

\*Dependent on future budgets and federal funding

# Improve system-wide reliability; reduce delays

- Single-track: Gateway, PDX
- Trains wait for each other;  
worst delays in the system;  
cascades to other lines
- Only 60-70% of p.m. peaks are  
trips on time

# Eliminate single-track at Portland Airport and Gateway

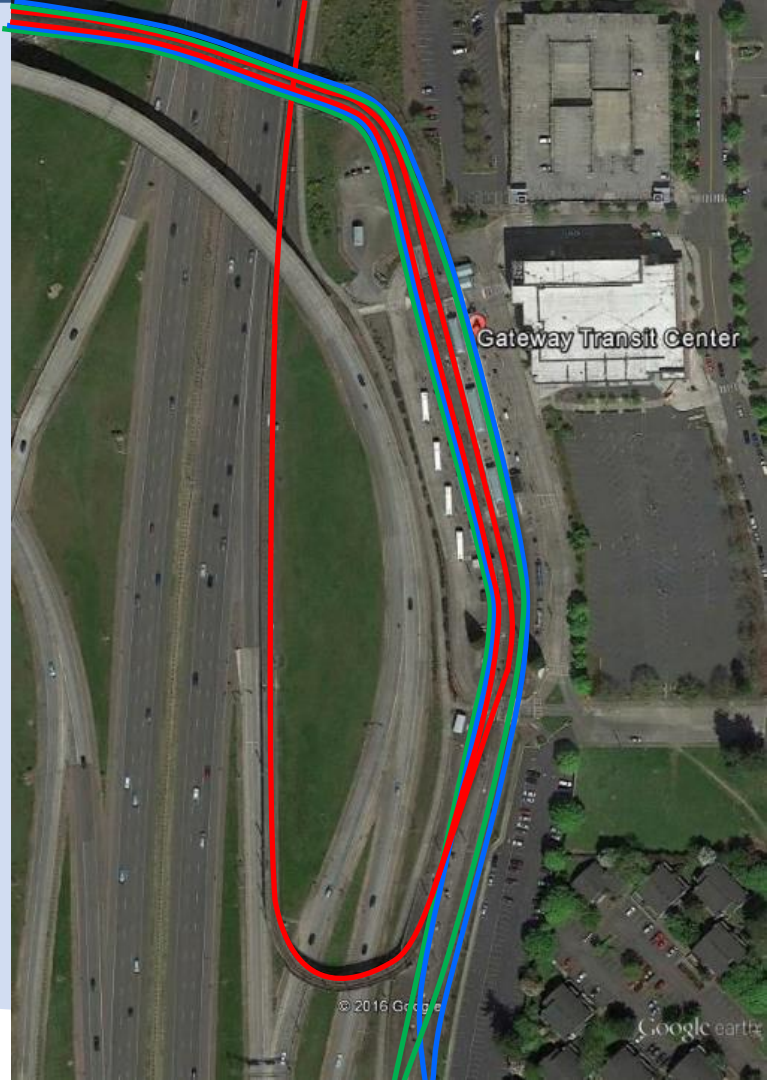


# Airport: existing single-track



# Gateway: existing single-track

- 498 trains per day in all directions
- Two options to add second Red Line track



# Gateway Option: Bridge + 99th Ave

- Slower travel time for westbound Red Line
- Shorter walk for westbound Red Line transfer
- Trains and crossings on 99th Ave, Pacific St
- On-street parking, driveway impacts
- More construction impacts

Existing alignment



New alignment



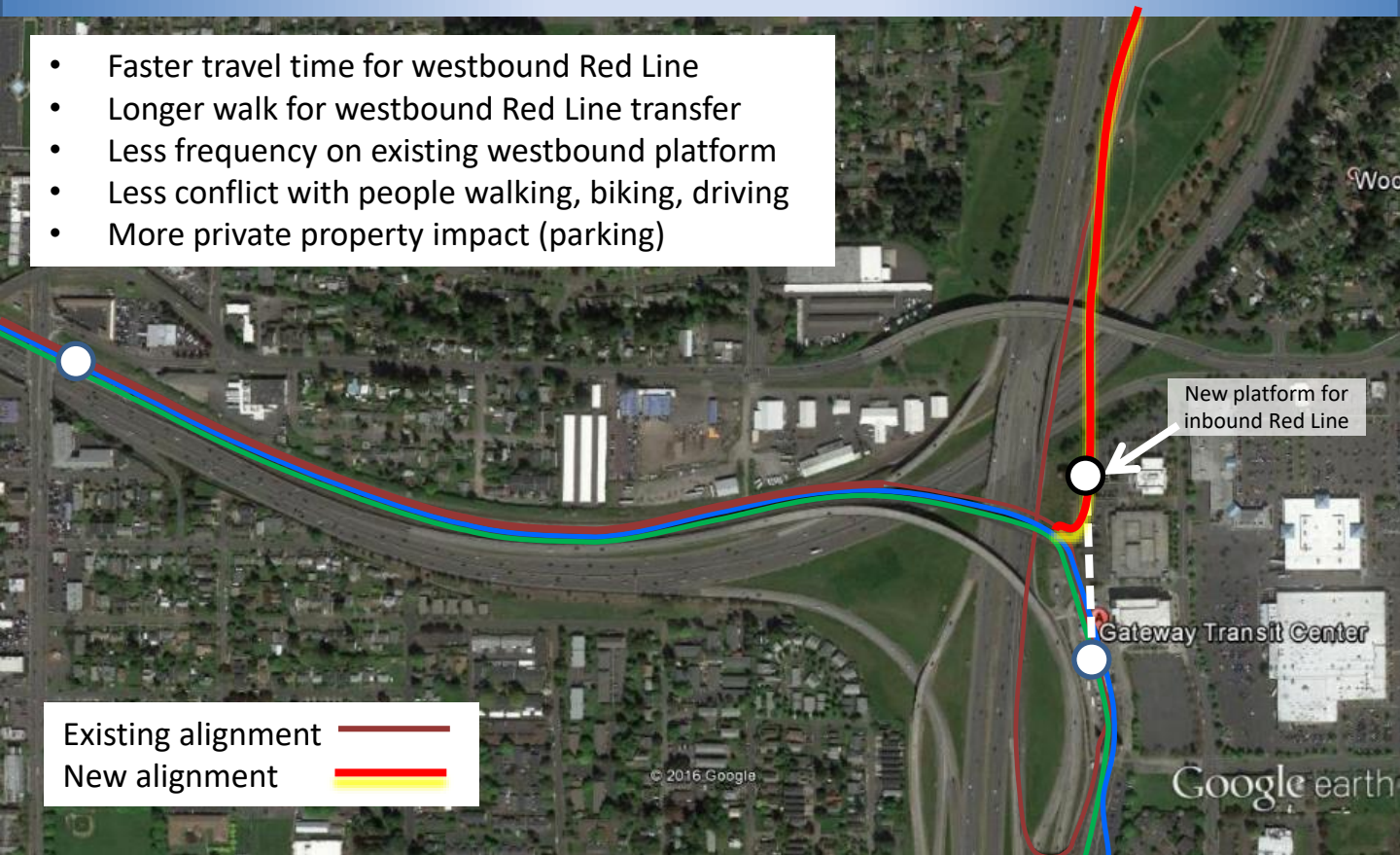
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Google earth



# Gateway Option: Bridge + New Platform

- Faster travel time for westbound Red Line
- Longer walk for westbound Red Line transfer
- Less frequency on existing westbound platform
- Less conflict with people walking, biking, driving
- More private property impact (parking)

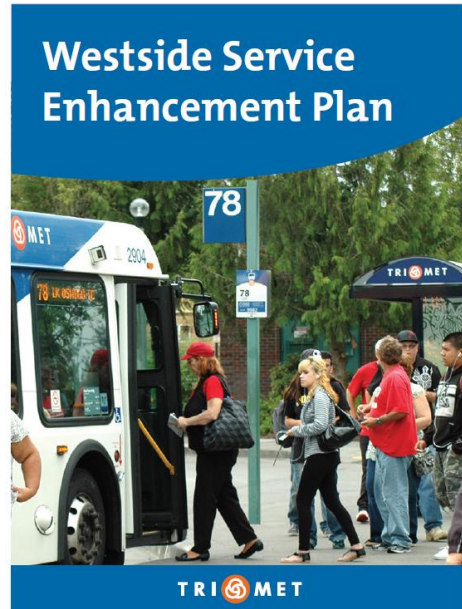


Existing alignment  
New alignment

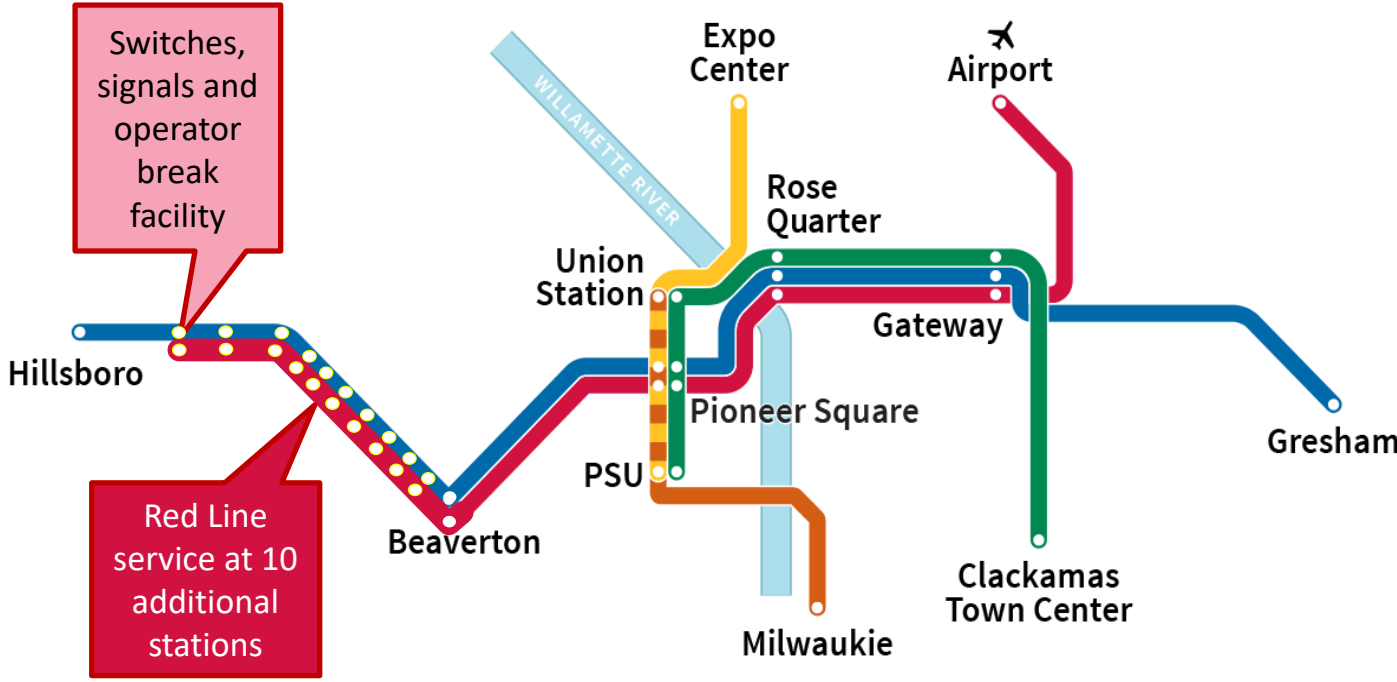


# Add service in Beaverton and Hillsboro; reduce crowding

- Priority from Westside SEP
- Crowded Blue Line trains



# Extend Red Line



# Additional vehicles to serve longer line

- Eight LRVs
- Procurement packaged with Type 1 Replacement program
- New storage track at Ruby Junction



# Red Line Timeline

Spring 2018	Confirm Gateway option
2018-2019	Design
2020-2021	Construction
2022	Opening

# Type 1 Replacement

- 26 LRVs (18% of today's fleet) purchased for original Blue Line
- 1986 accessibility standards
- Near end of life despite maintenance, overhauls



# Vehicle Procurement Timeline

2018	Solicitation*
2019-2021	Design, manufacture
2021-2022	Commissioning, training
2022-2023	New vehicles in service

\*CAT input for solicitation in 2017

# New LRV specs: base on Type 5

## Other considerations?

