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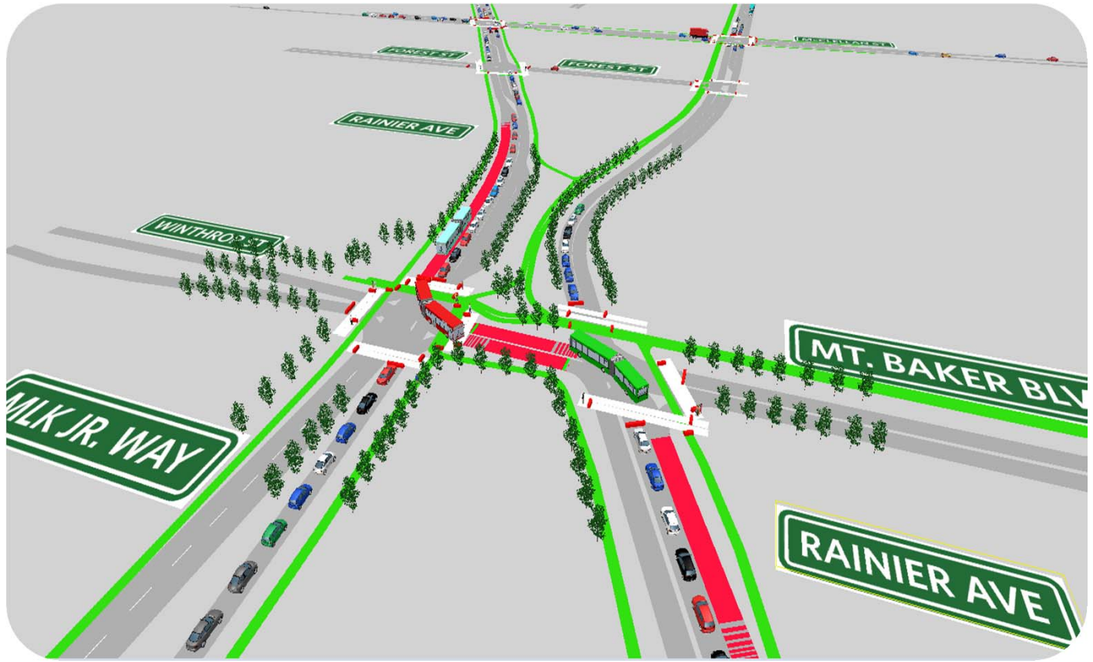
Traffic Simulation

WHAT IS IT?

- A technical analysis and planning tool to analyze traffic scenarios
- Traffic based on observed travel patterns
- Accounts for movement and interaction of people, bikes, buses, trucks, and cars
- Combines complex numerical analysis with visual animation of traffic movement



Rainier Avenue and MLK Jr Way Reconfiguration

BENEFITS

- Allows testing of potential changes to the street network without building them
- Helps predict congestion
- Helps visualize expected operation
- Makes it easier to refine roadway and intersection network changes needed to manage traffic

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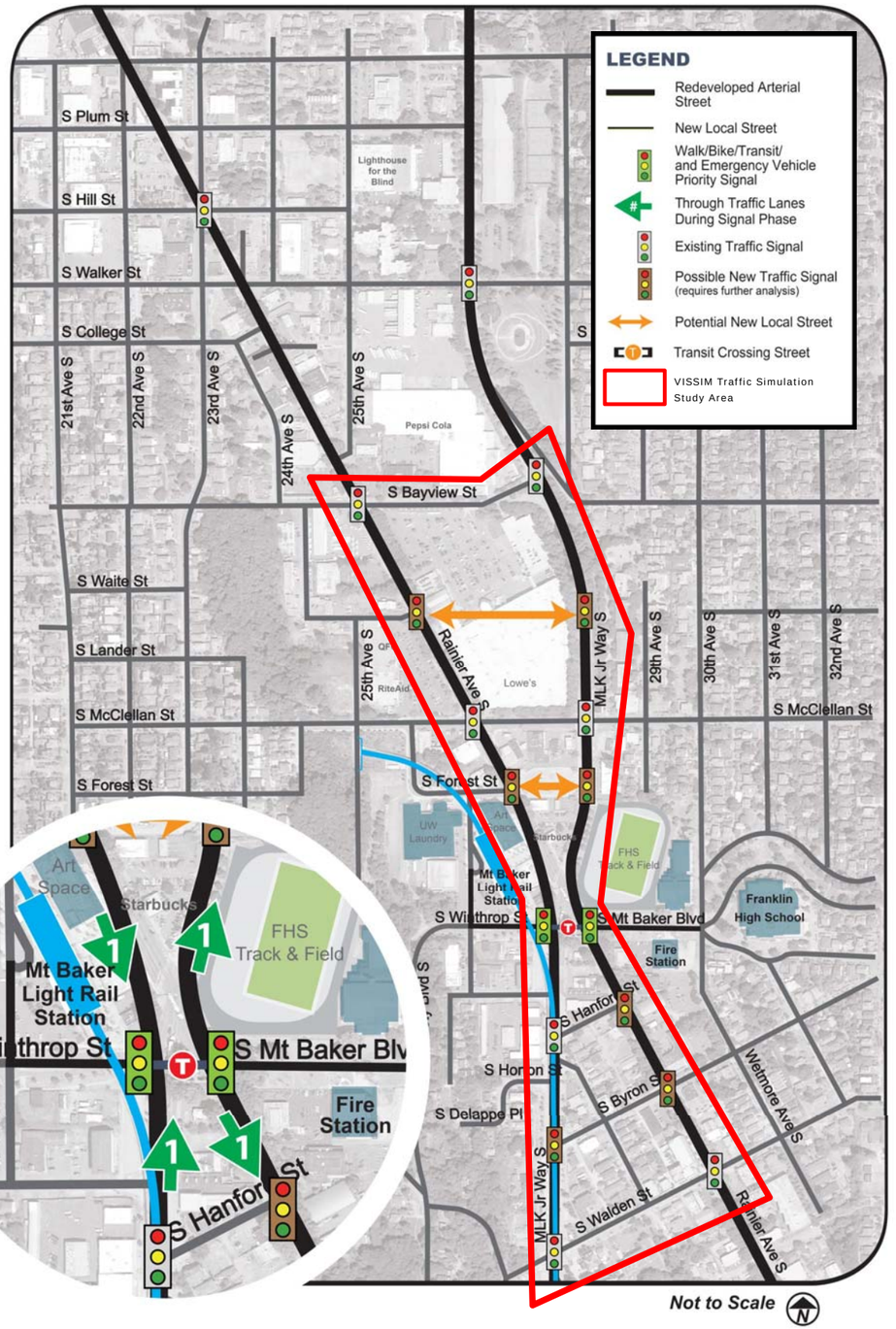
ASSUMPTIONS

- Model year of 2019
- PM peak hour traffic
- All traffic trips are routed to or through the study area
- Future Lowe's site redevelopment would generate comparable auto traffic to what Lowe's does today
- New east-west streets to connect Rainier and MLK Jr. Way:
  - Lander (if Lowe's site is redeveloped)
  - Forest (existing bus transit center)
- Additional traffic signals
- Minor bus route adjustments
- Bike lanes on both Rainier and MLK Jr. Way

Study Area



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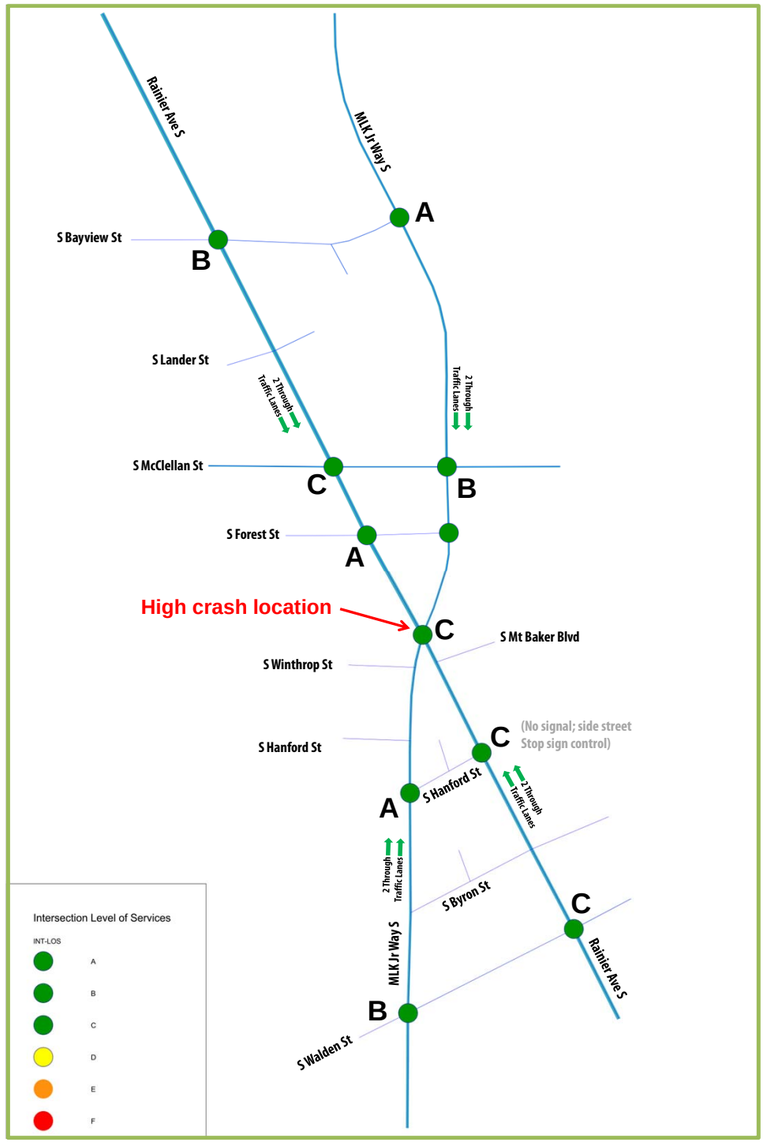
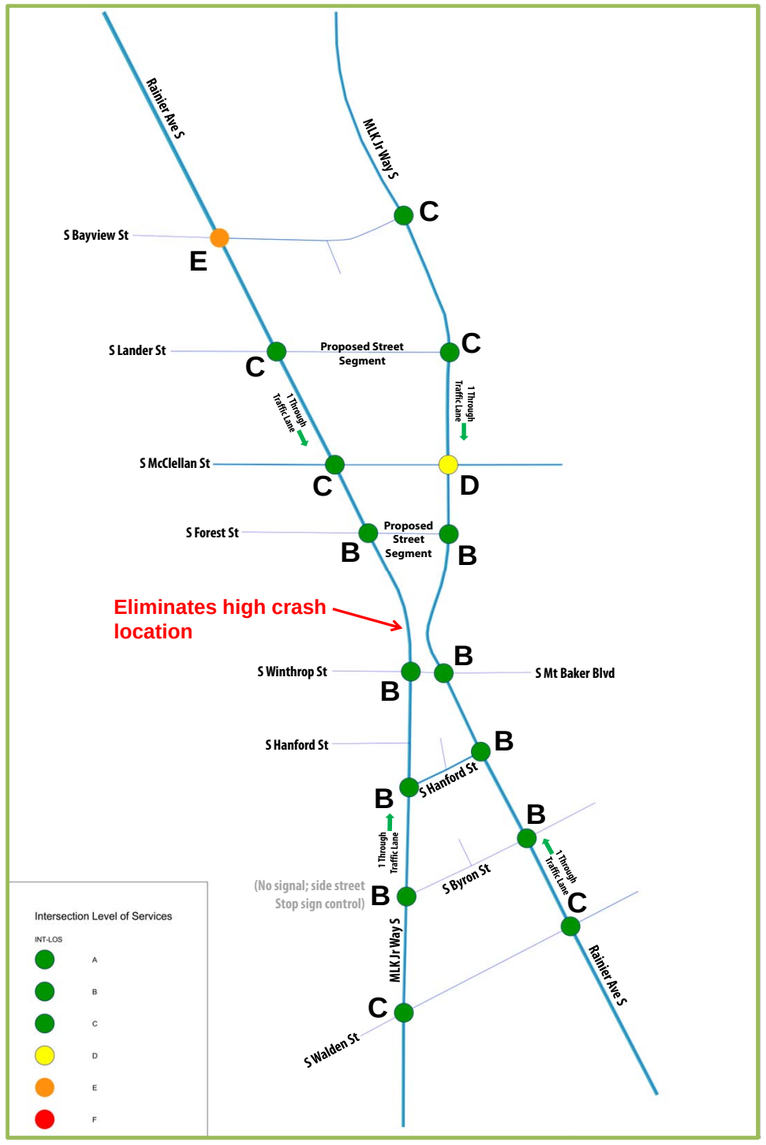
Intersection Level of Service (LOS)



Existing LOS



2019 LOS

HIGHLIGHTS

- High crash intersection removed (Rainier Ave S/MLK Jr. Way S)
- Accommodates the same traffic demand
- Balances traffic on Rainier Ave S and MLK Jr. Way S
- Supports bike and pedestrian improvements
- Supports better bus operations and transfers between bus and rail

LOS	Signalized Intersection	Unsignalized Intersection
A	≤10 sec	≤10 sec
B	10–20 sec	10–15 sec
C	20–35 sec	15–25 sec
D	35–55 sec	25–35 sec
E	55–80 sec	35–50 sec
F	≥80 sec	≥50 sec

Source: Highway Capacity Manual 2010 LOS Criteria

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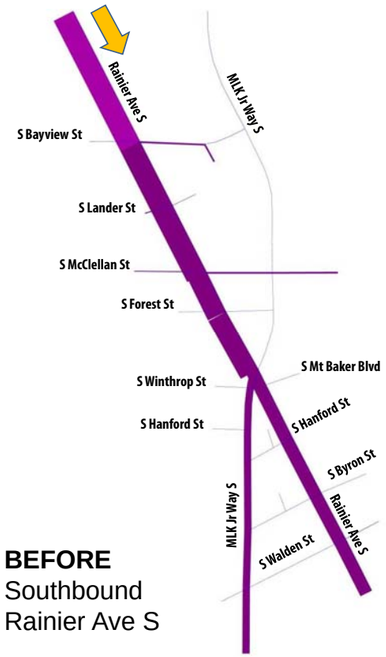
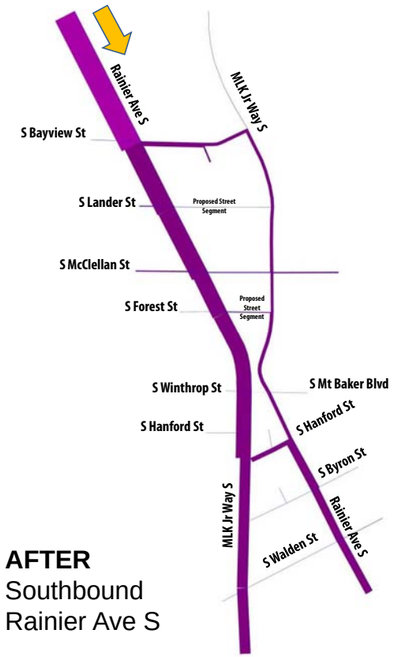
PM Peak Hour *Origin and Destination Patterns*



BEFORE
Southbound
Rainier Ave S



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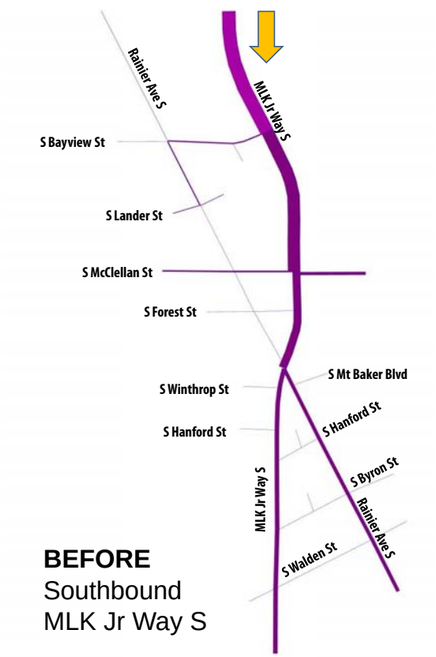
Southbound
Rainier Ave S



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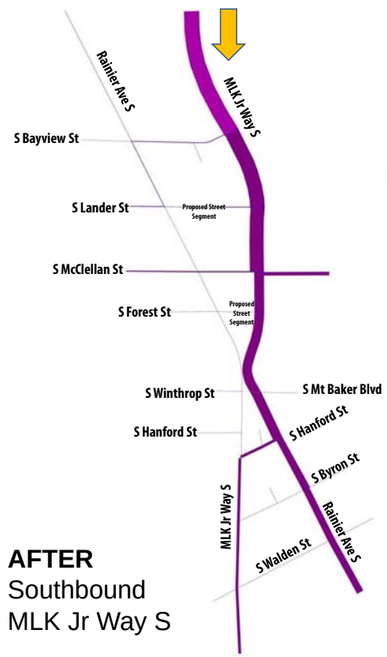
Southbound
MLK Jr Way S



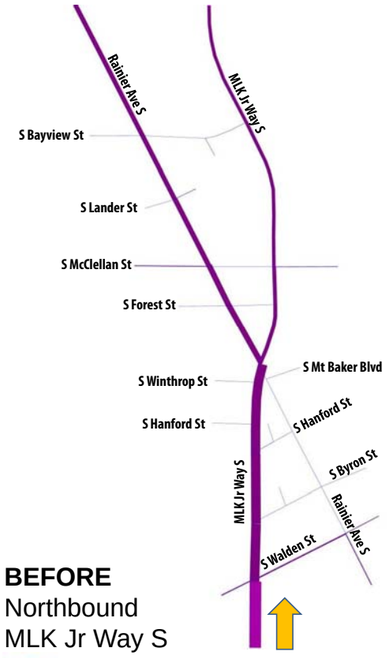
AFTER
Southbound
MLK Jr Way S

LEGEND

Trip Origin
Direction of traffic entering the model

Less
More

Traffic Volume
Trips entering at the origin



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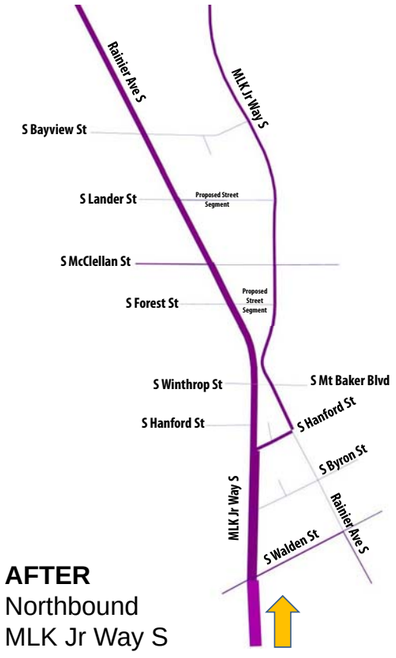
MLK Jr Way S



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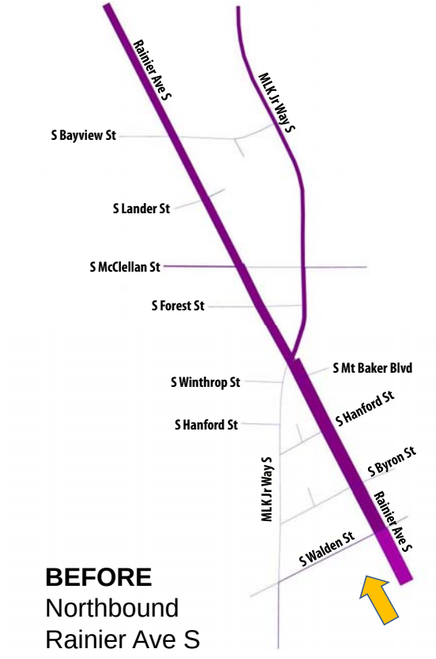
MLK Jr Way S



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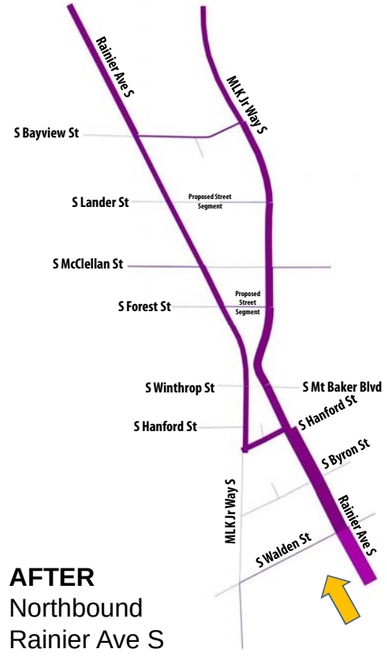
Rainier Ave S



AFTER
Northbound
Rainier Ave S

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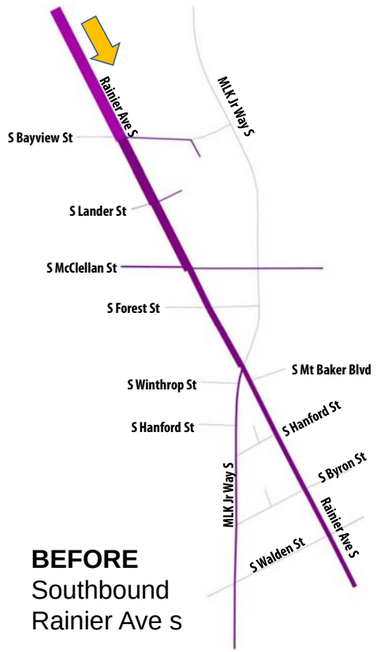
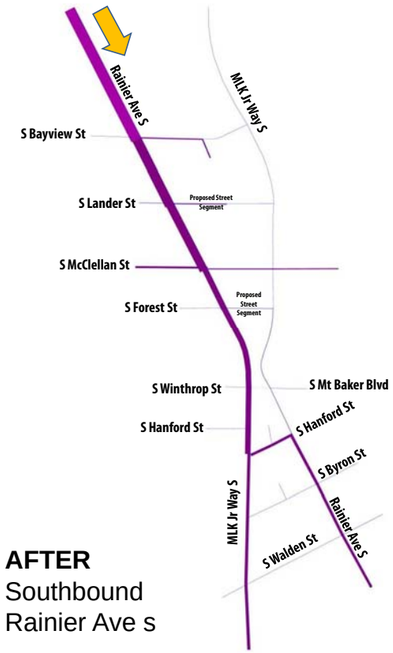
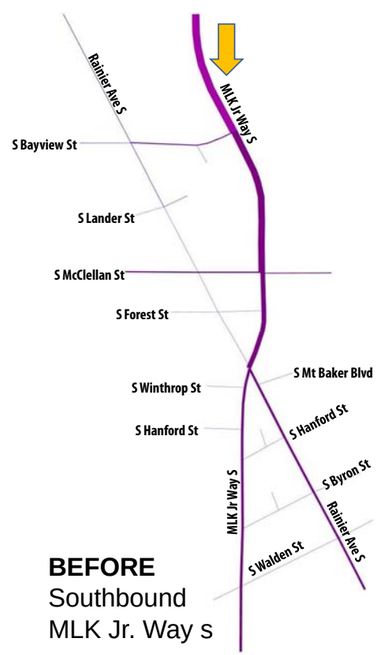
AM Peak Hour *Origin and Destination Patterns*



BEFORE
Southbound
Rainier Ave s

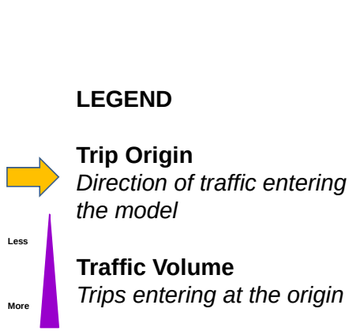


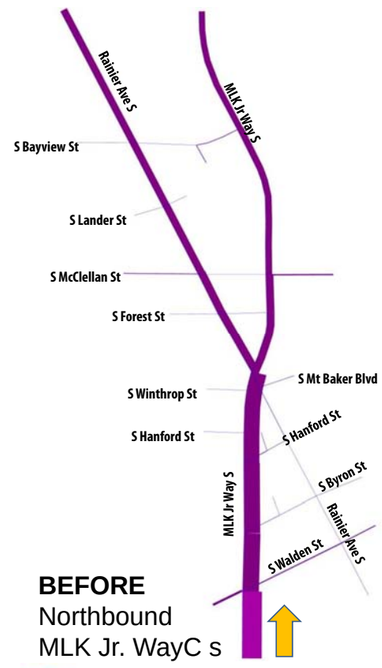
AFTER
Southbound
Rainier Ave s



BEFORE
Southbound
MLK Jr. Way s

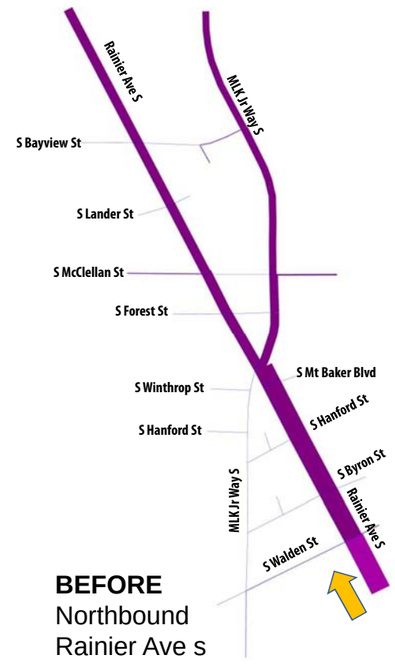
AFTER
Southbound
MLK Jr. Way s



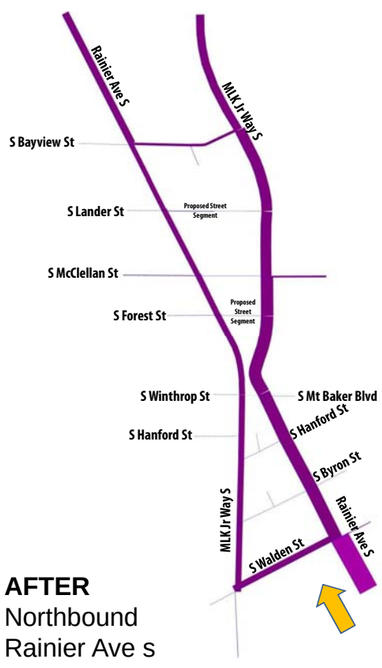


BEFORE
Northbound
MLK Jr. WayC s

AFTER
Northbound
MLK Jr. Way s



BEFORE
Northbound
Rainier Ave s



AFTER
Northbound
Rainier Ave s

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