

# West Marginal Way SW Safety Corridor Project

December 2023

# Today's Discussion

- Purpose of project
- Key takeaways
- Data collection
- Analysis results
- Listening and taking action
- Project summary
- Next steps



# Purpose of project

Make West Marginal Way SW safer and more predictable for all travelers and maintain capacity and operations

- **Safer** = drivers traveling at posted speed limits, designated space for people walking and biking, increased awareness at driveways and intersections
- **More predictable** = defined space for all travelers
- **Close a crucial transportation gap** = connect the Duwamish Trail and West Seattle Bridge Trail
- **Maintain capacity** = maintain existing freight operations along corridor and to/from Port



# Key takeaways

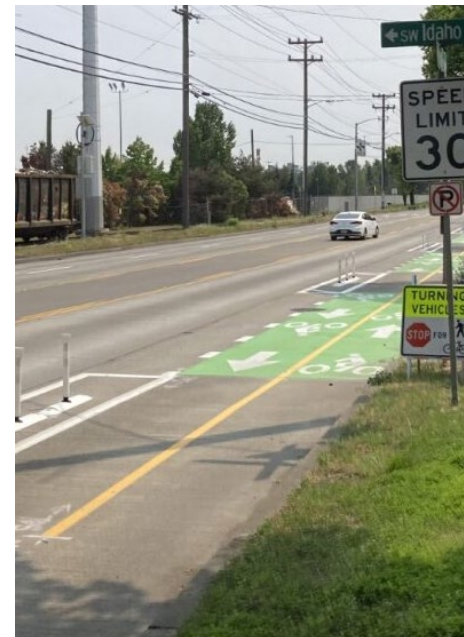
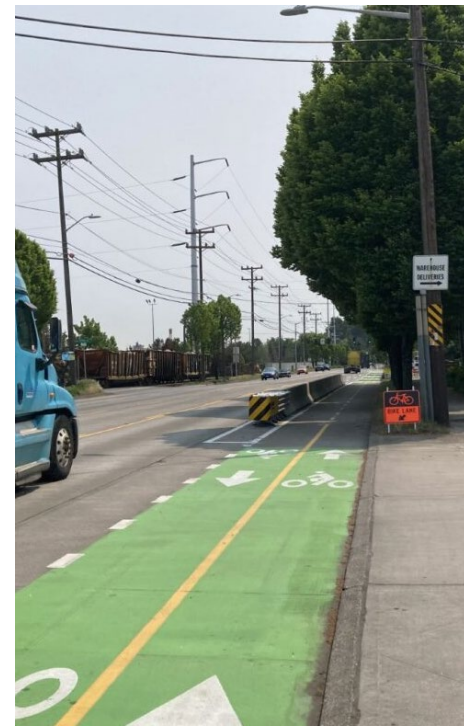
- **A step towards Vision Zero safety goals:**
  - Elimination of high-speed passing for PBL segment and by Duwamish Longhouse
  - Operating speeds closer to posted speed limits
  - Improved sightlines at all driveways/intersections along corridor along PBL and Duwamish Trail
  - Predictable space for all travelers
- **Verified minimal effects to overall operations of W Marginal Way SW**
  - Less than a second increase (0.56 seconds) in travel time for drivers with project
- **Corridor can maintain existing and future freight and traffic operations**
- **Protected Bike Lane closed a gap in the Duwamish Trail network and people are using it**
  - Biking has increased by as much as 144%
  - People walking/rolling has increased as much as 91%



# Data collection

## Post-project data collection:

1. August/September 2023: along west and east sides of corridor for driveway truck, pedestrian, and bicycle turning movement counts and volumes in peak season
2. August 2023: people riding bikes speed collection
3. August 2023: traveler interaction analysis performed at the two top volume driveways of the Duwamish Trail
4. August 2023: travel times
5. October 2023: speeds



# Data collection

## Post-project data collection:

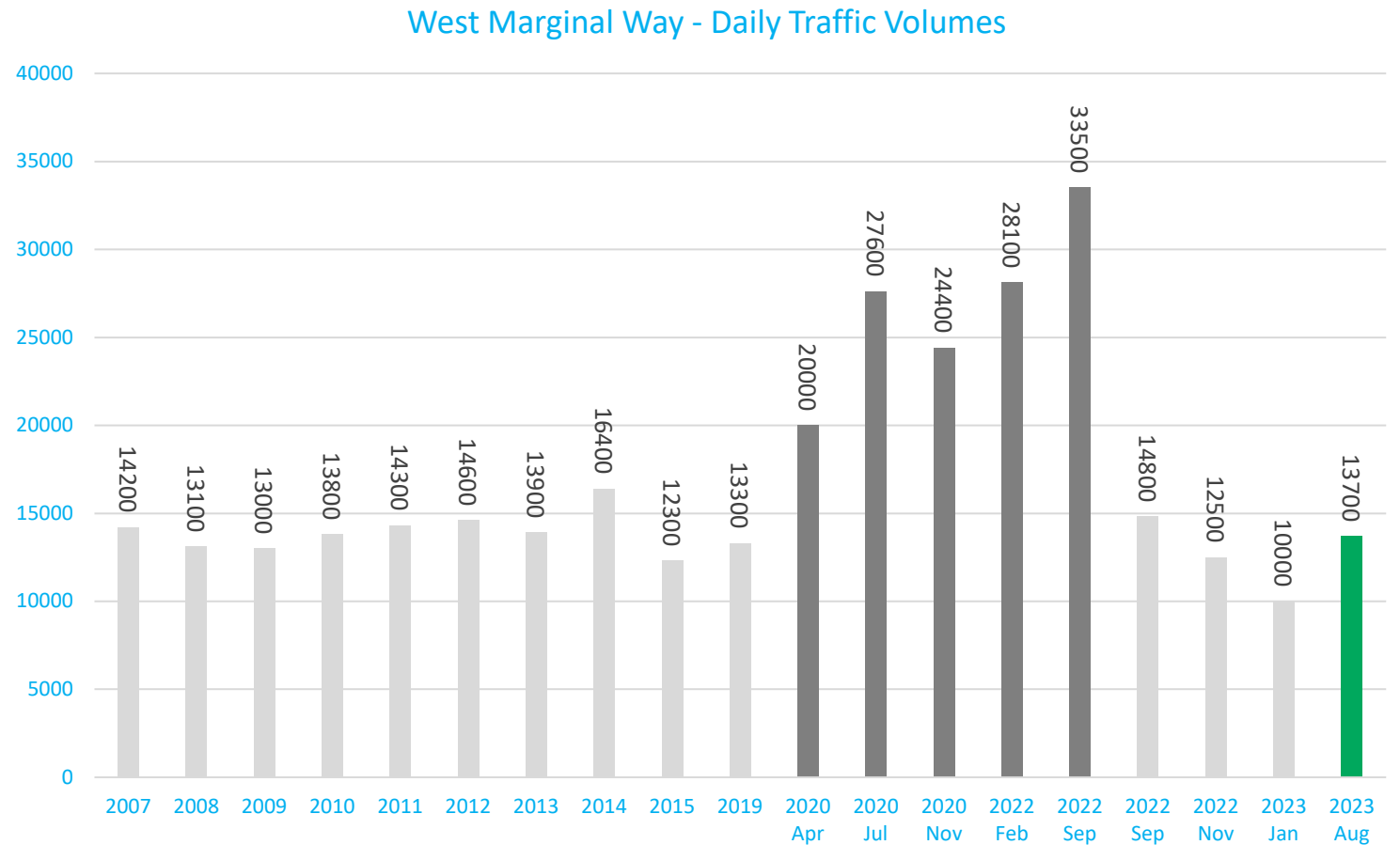
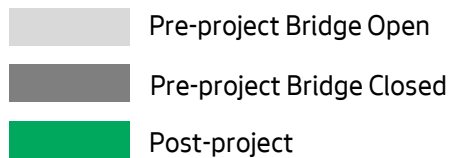
- Vehicular speeds in NB and SB directions
- Weekday 24-hour NB and SB traffic volumes by vehicle class
  - a. Truck volumes by direction
  - b. Peak hour volumes
- Count of people walking or rolling along the 2.5-mile corridor
- Count of people biking along the 2.5-mile corridor
- Traveler interaction analysis of the top two driveways crossing the Duwamish Trail
- Weekday turning movement counts for all driveway locations on both sides of the corridor
- People biking speeds





# Findings: Traffic volumes post-project

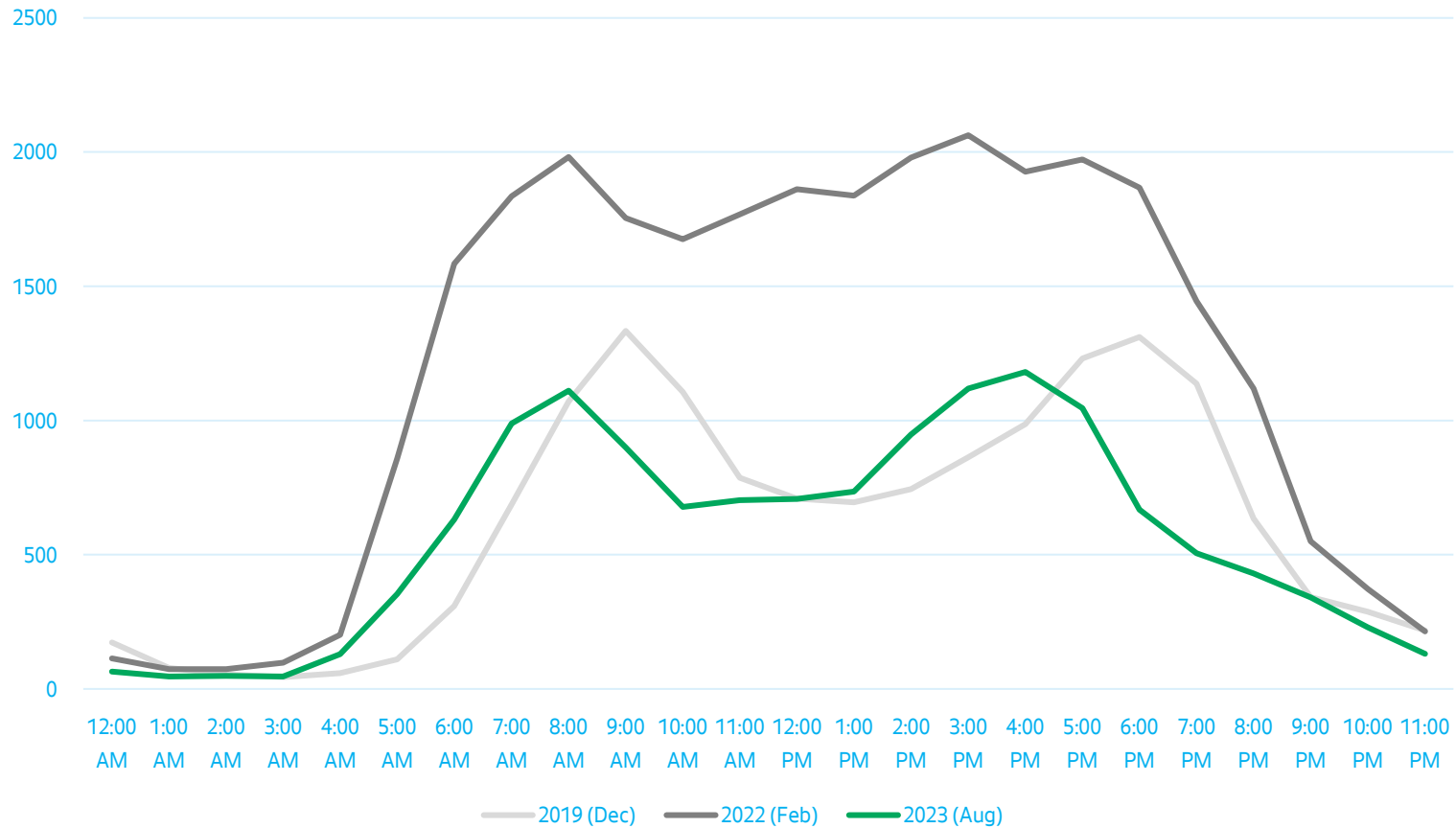
- Traffic patterns are back to normal level of approximately 14,000 vehicles per day





# Findings: Traffic volumes post-project

West Marginal Way SW Hourly Traffic Volumes

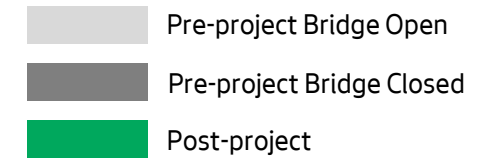


- Pre-project Bridge Open
- Pre-project Bridge Closed
- Post-project

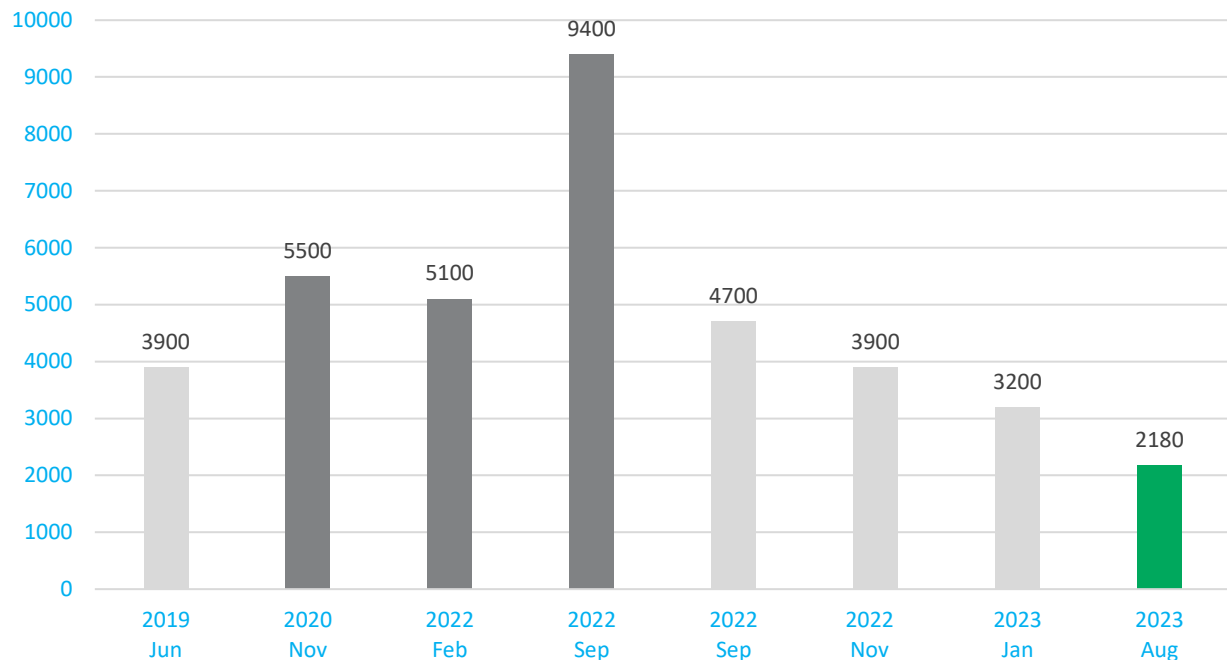
\*Data collected December 2019 and February 2022 (during large ship unloading at T5) at SW Dakota St

# Findings: Truck volumes post-project

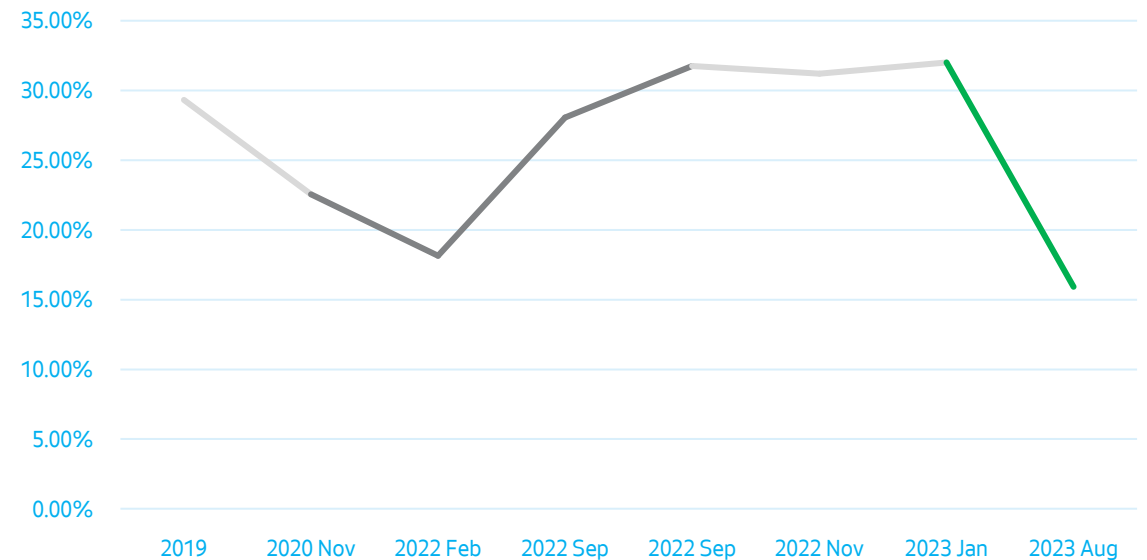
- December 2019 = 3,900 trucks per day
  - 30% of total vehicle volumes
  - Anticipated 60% truck growth between 2015 and 2035 (Freight Master Plan)
- September 2022 = 9,400 trucks per day
- August 2023 = 2,180 trucks per day



Daily Truck Volumes (SU+)

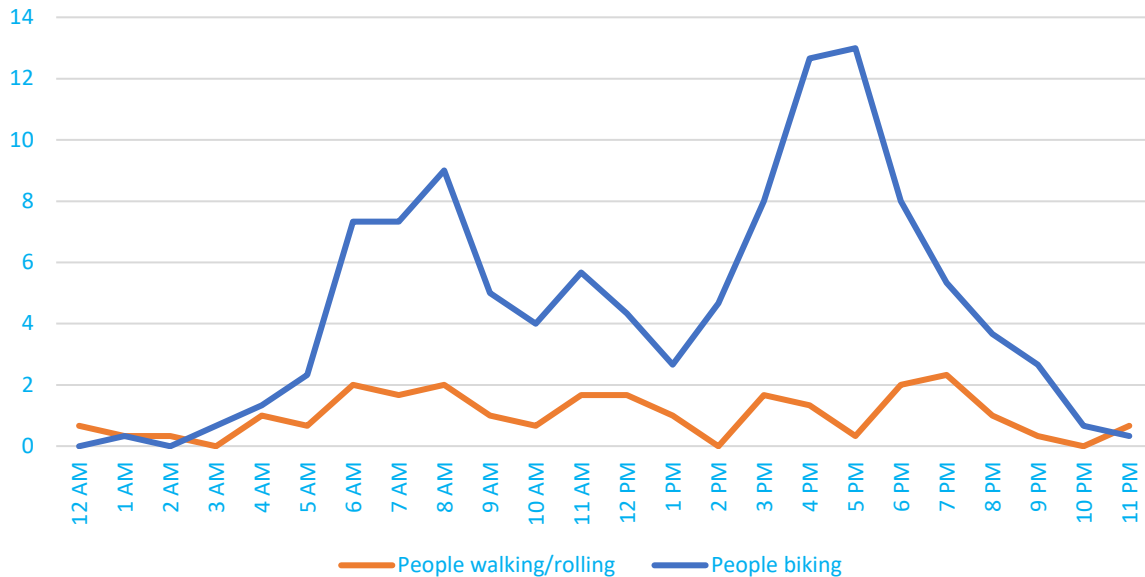


Truck % of Total Traffic



# Findings: Walk / bike counts pre-project

Average hourly pedestrian and bike volumes



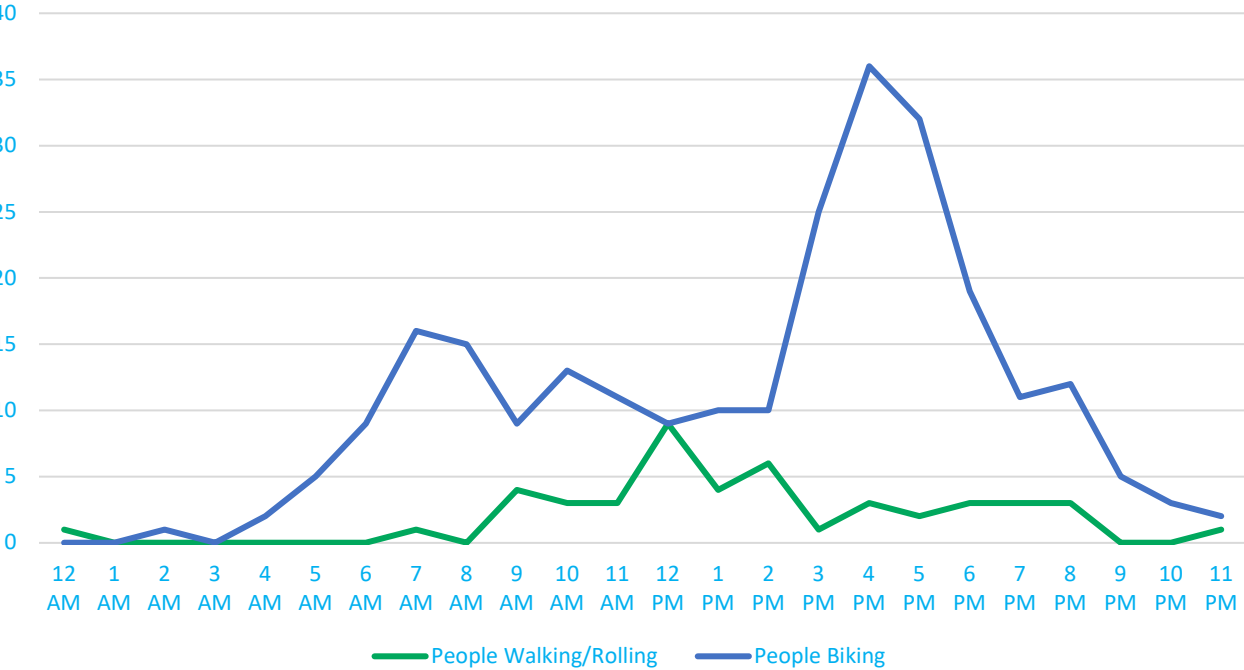
Total volumes per day



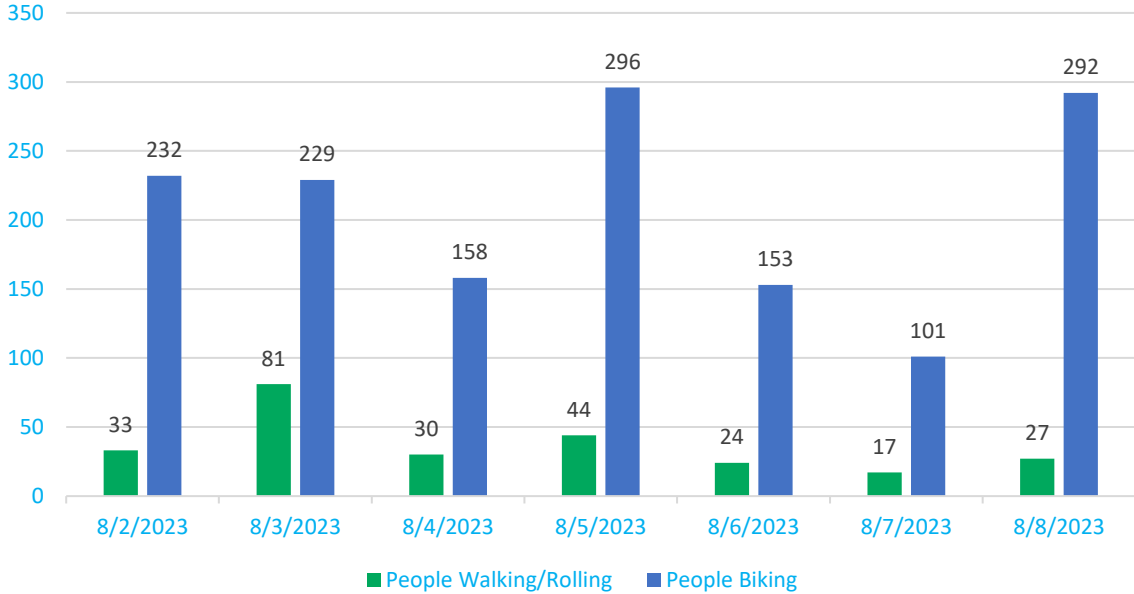
Anticipated a 200% growth in bike volumes

# Findings: Walk / bike counts post-project

Average Hourly Pedestrian and Bike Volumes

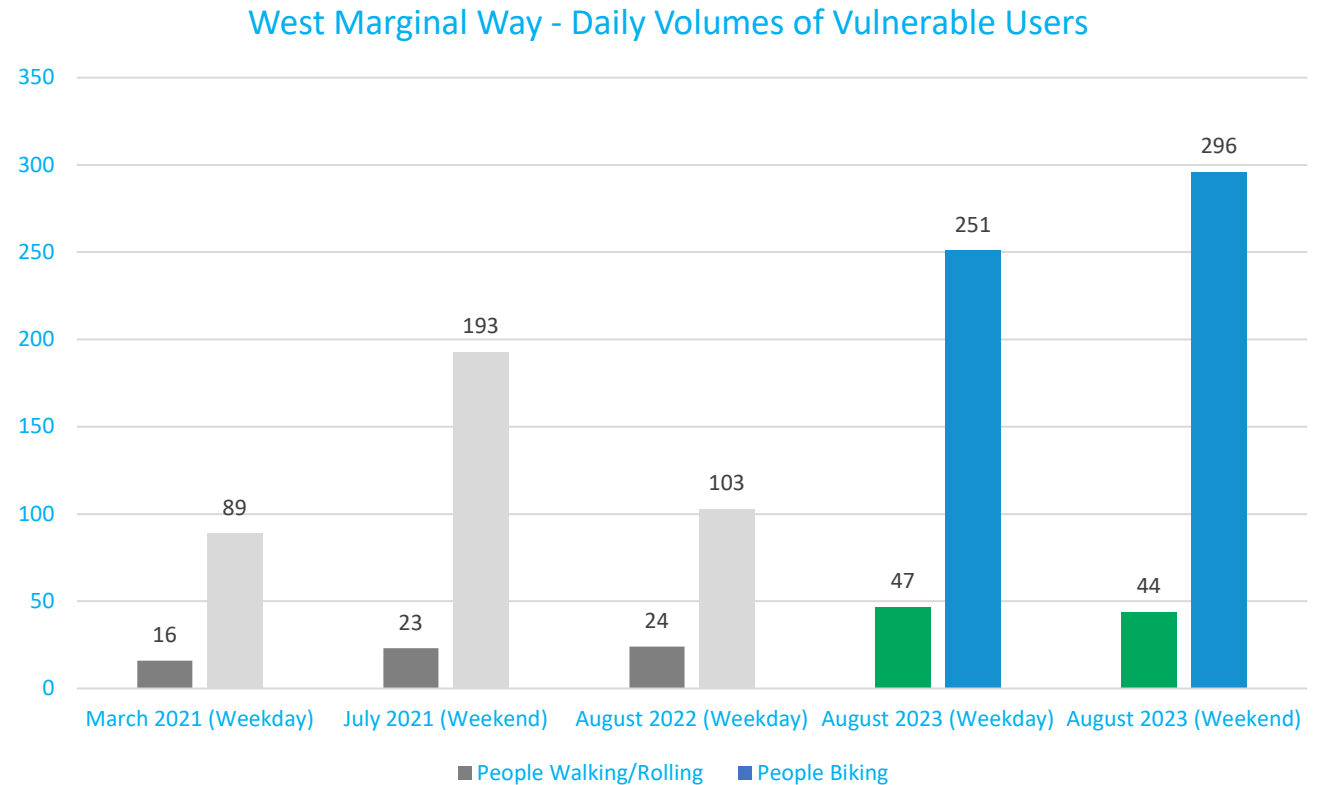


Total Volumes Per Day



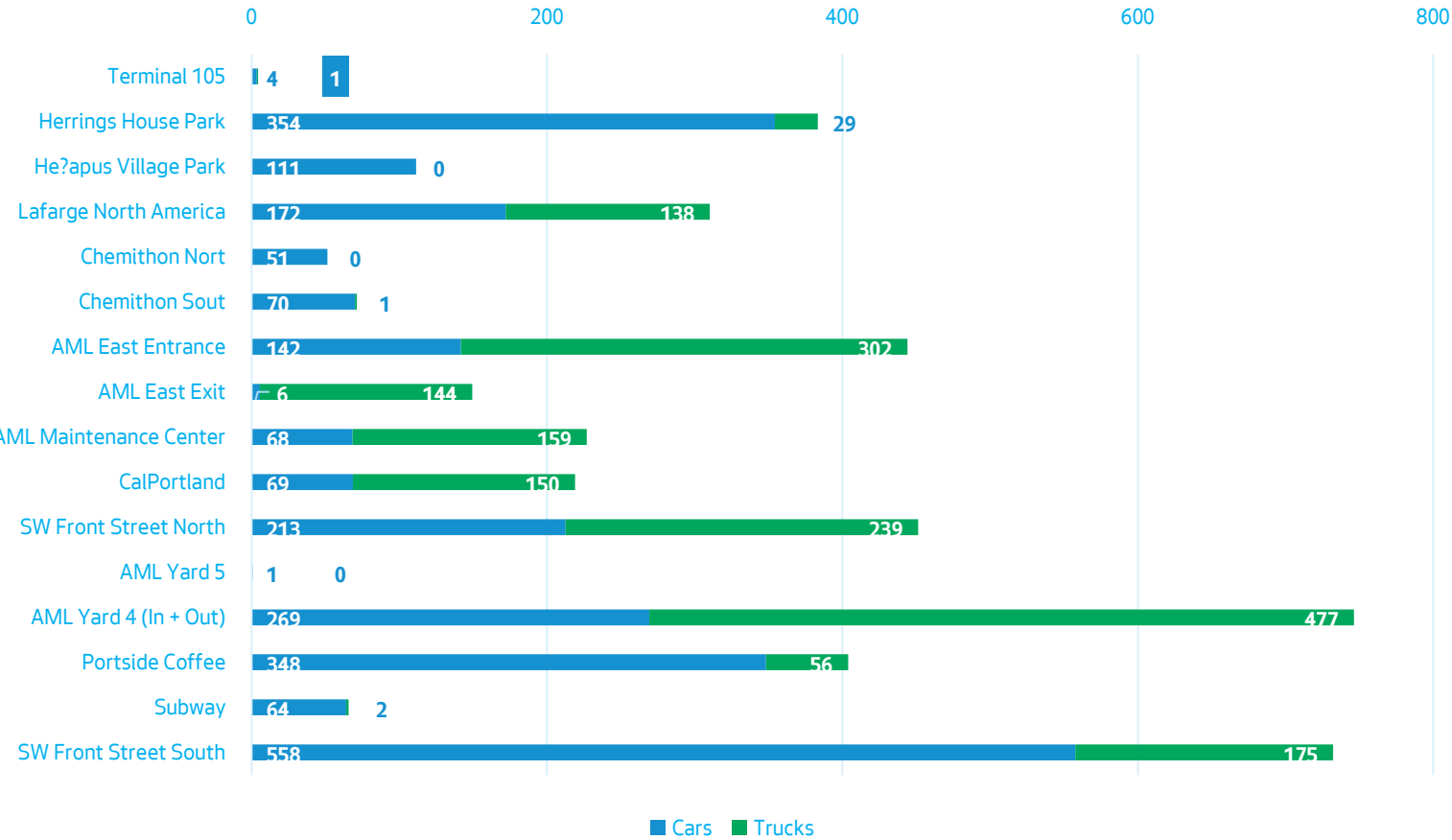
# Findings: Walk / bike counts post-project

- Biking increased by 144% on weekdays
  - March 2021 = 89
  - August 2022 = 103
  - August 2023 = 251
- Biking increased by 53% on weekends
  - July 2021 = 193
  - August 2023 = 296
- Walking increased by 96% on weekdays
  - March 2021 = 16
  - August 2022 = 24
  - August 2023 = 47
- Walking increased by 91% on weekends
  - July 2021 = 23
  - August 2023 = 44



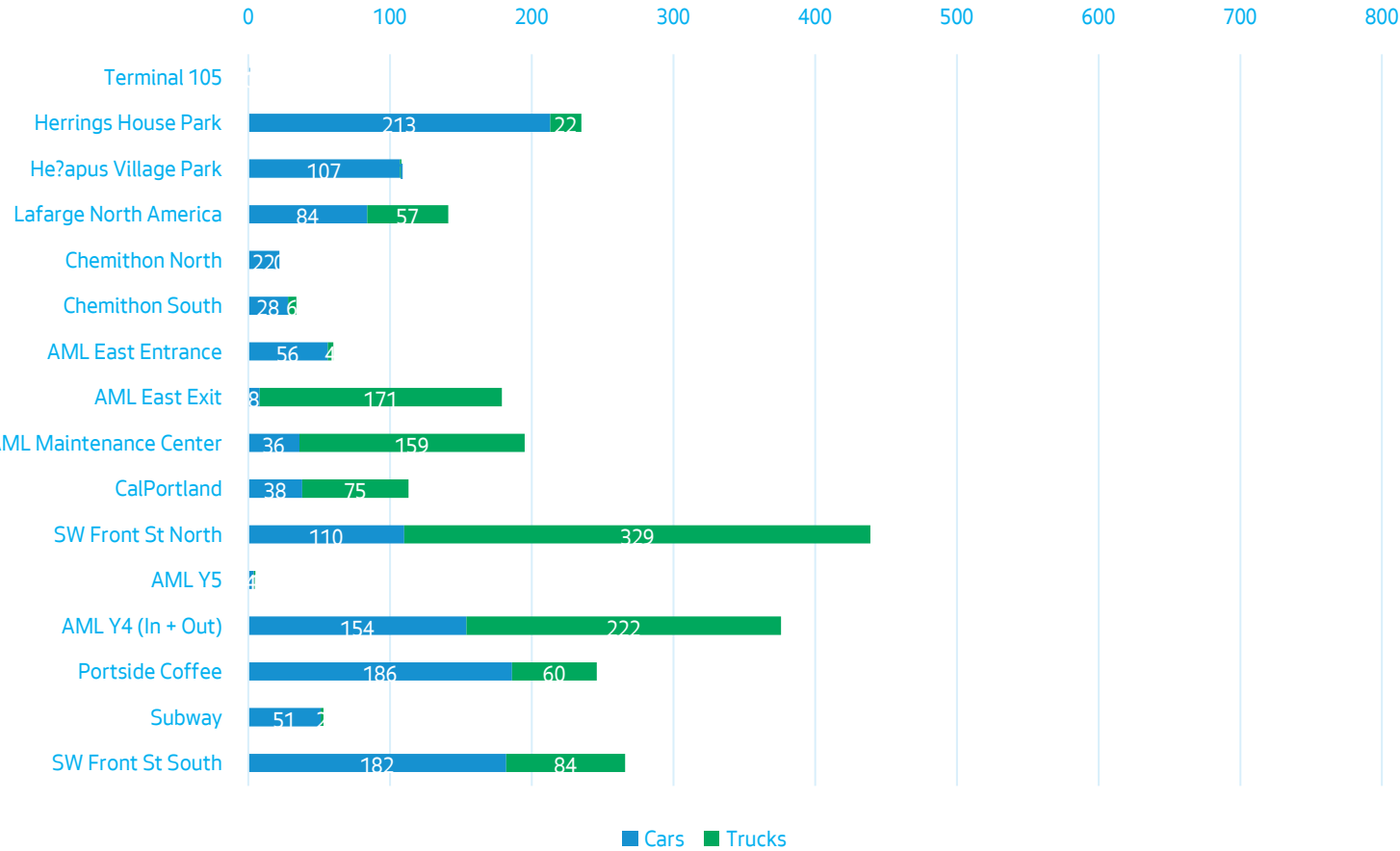
# Findings: Vehicle counts pre-project - east driveways

BEFORE Eastside Driveways: Vehicles In/Out Per Day



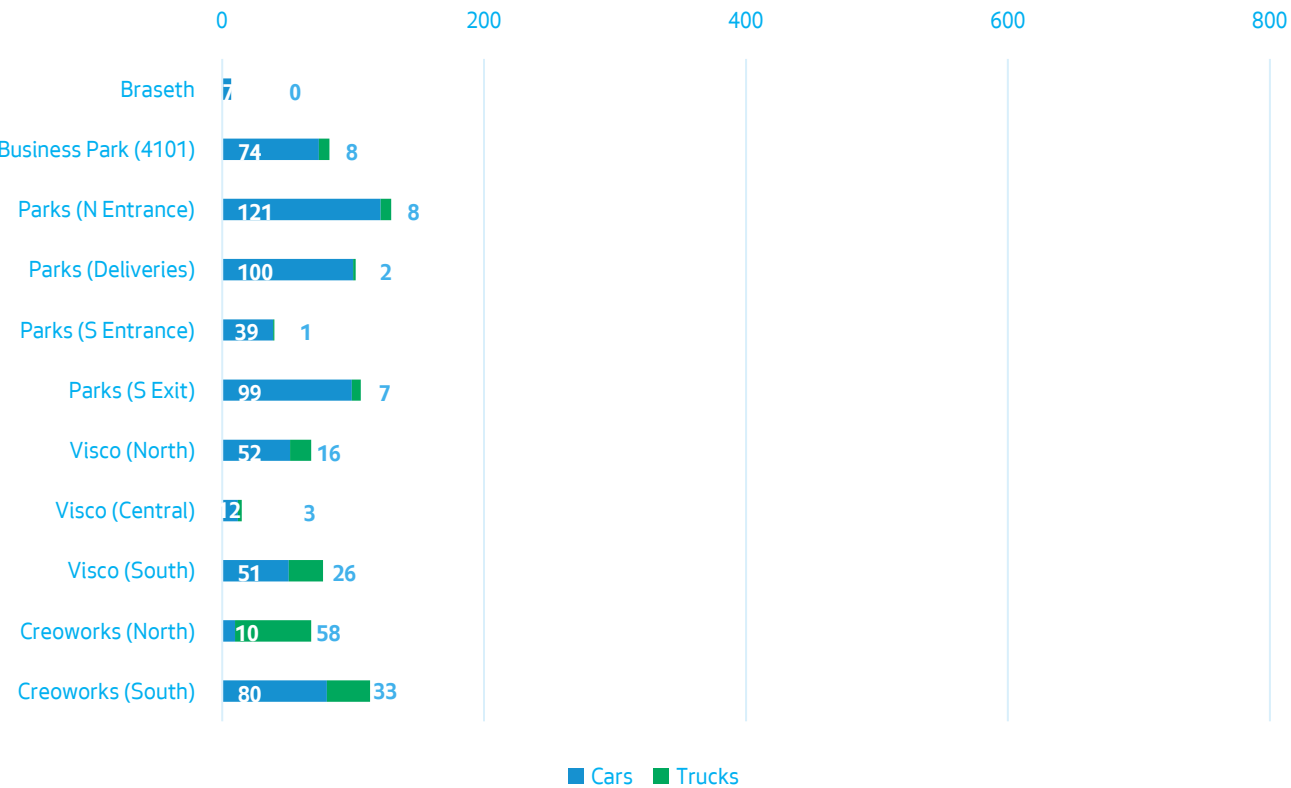
# Findings: Vehicle counts post-project - east driveways

AFTER Eastside Driveways: Vehicles In/Out Per Day



# Findings: Vehicle counts pre-project - west driveways

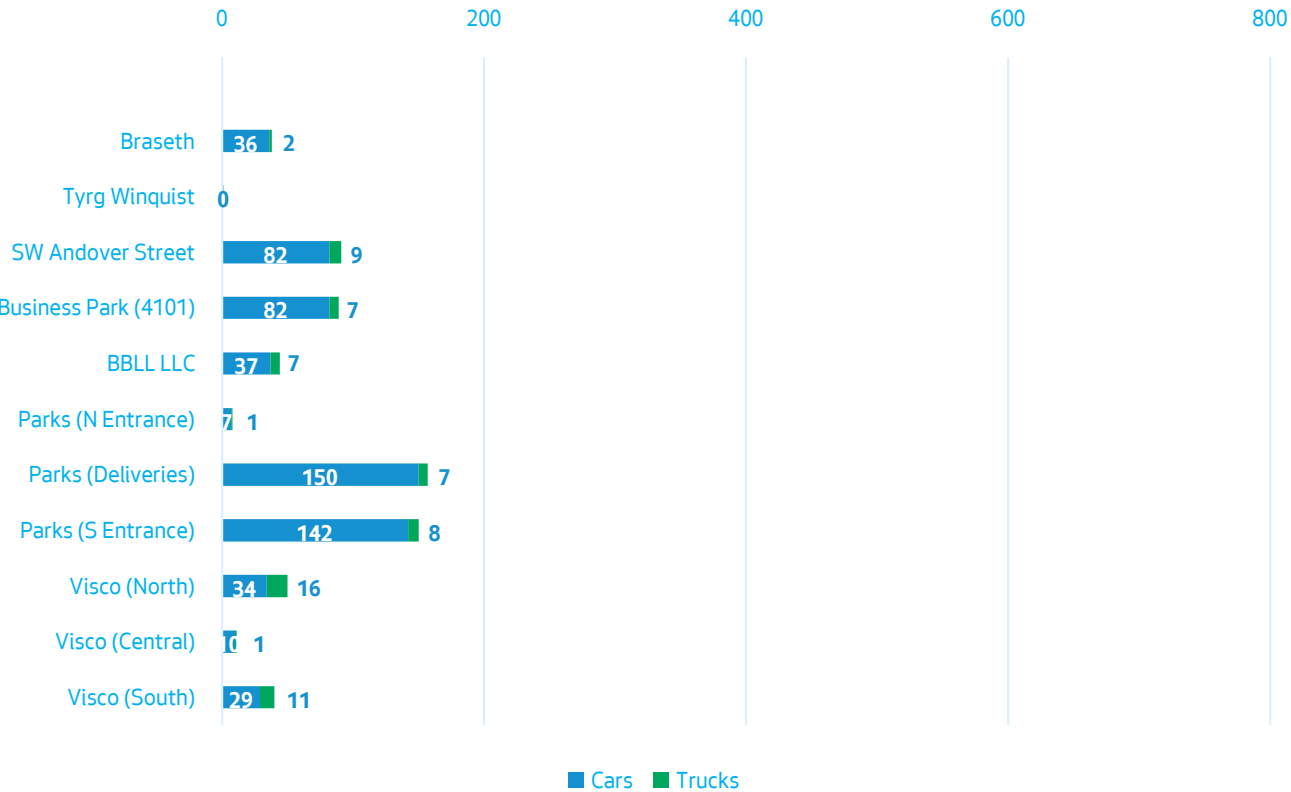
Vehicles (in/out) per day - West driveways





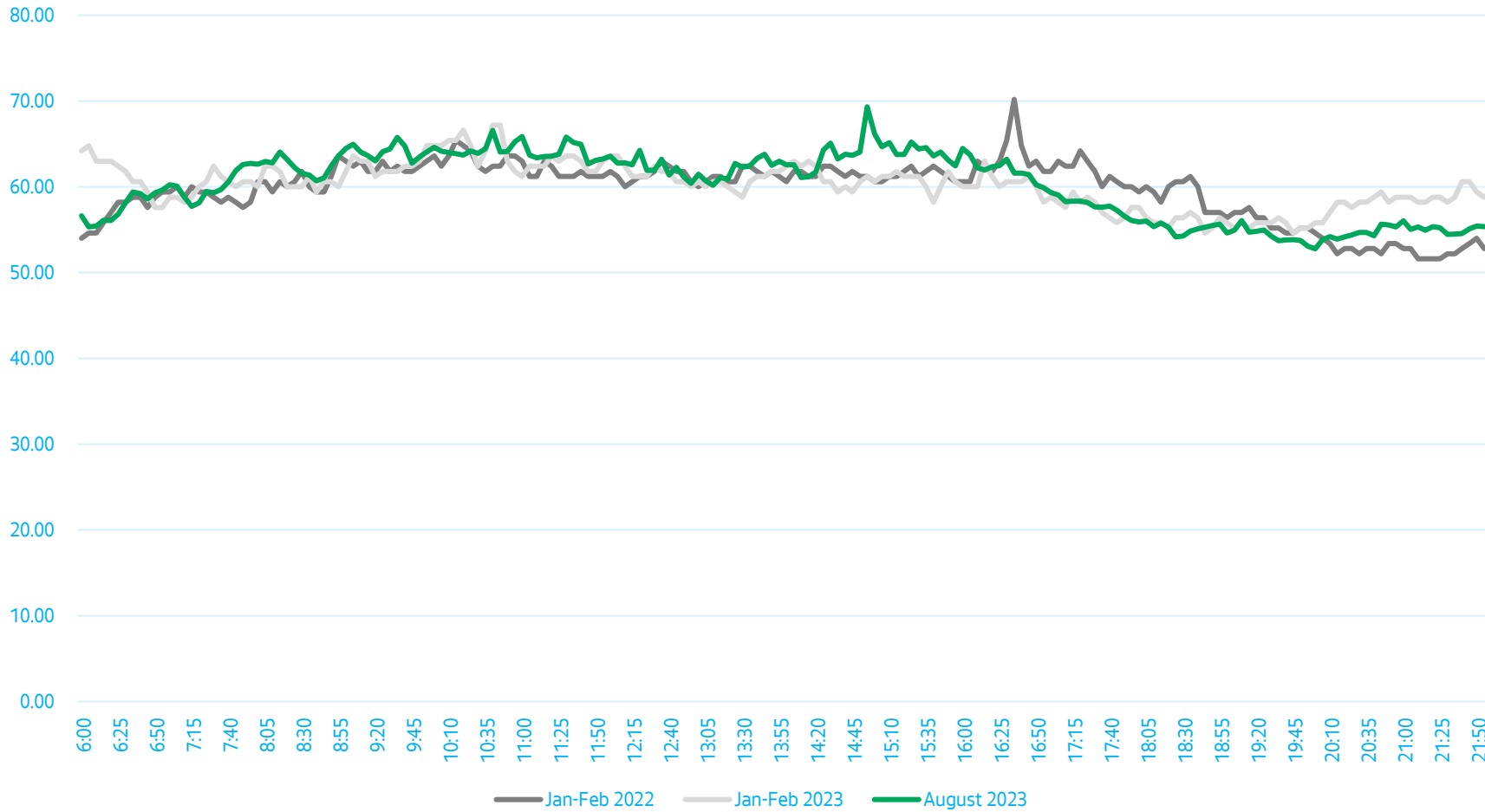
# Findings: Vehicle counts post-project - west driveways

AFTER Westside Driveways: In/Out Per Day



# Findings: Travel times post-project

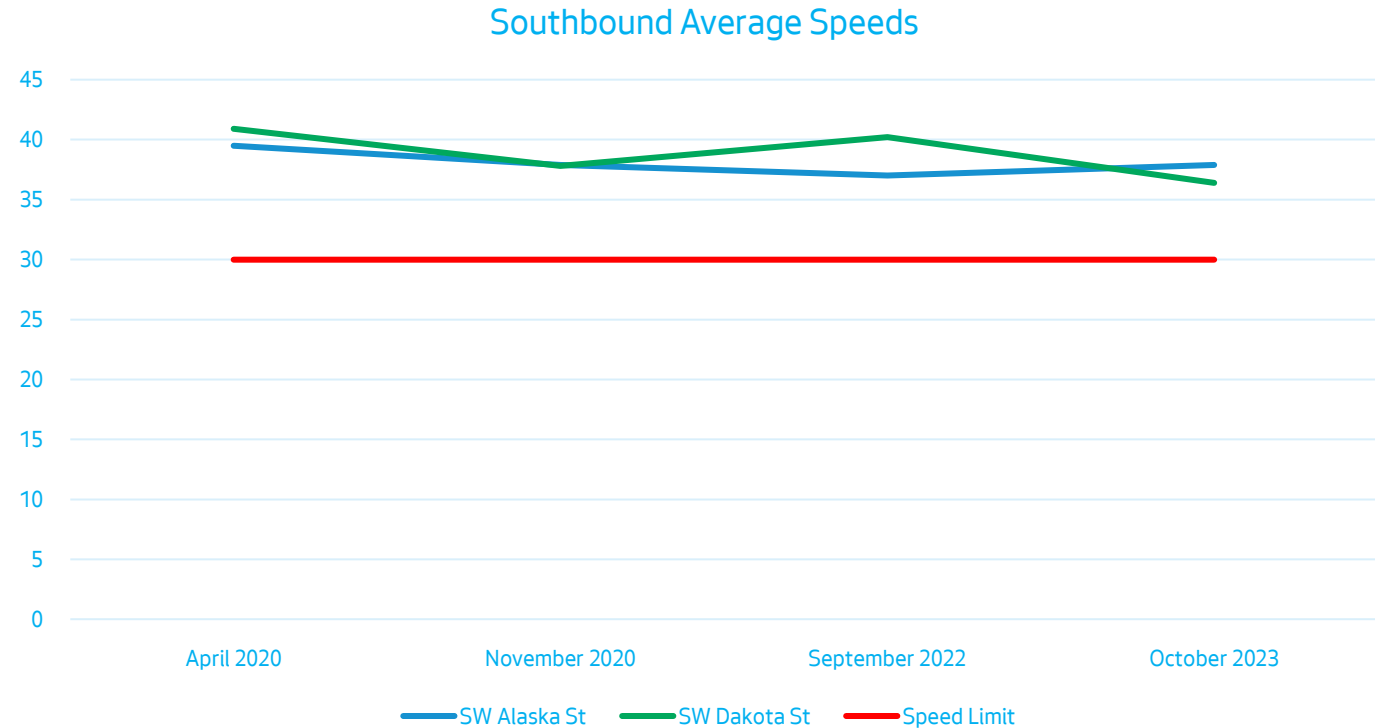
Southbound Travel Time - W Marginal Way SW between SW Marginal Place & SW Alaska St



	Jan/Feb 2022	Jan/Feb 2023	August 2023
Average Travel Time	59.66 seconds	60.19 seconds	60.22 seconds

# Findings: Speeds post-project

- Speed-related interventions:
  - Reduced speed limit from 40 to 30 mph
  - Radar feedback signs
- Speeds have decreased moderately since the project began
  - -4.05% at SW Alaska St
  - -11.00% at SW Dakota St



Street	April 2020	November 2020	September 2022	October 2023	PCT Change since beginning of Project
SW Alaska St	39.5 mph	37.9 mph	37 mph	37.9 mph	-4.05%
SW Dakota St	40.9 mph	37.8 mph	40.2 mph	36.4 mph	-11.00%

# Findings: Biking speeds post-project

- People biking on weekdays are moving faster than weekend bike riders
- Speeds slightly below other trails - Burke Gilman, Elliott Bay
- Similar biker speeds on the PBL and Duwamish Trail

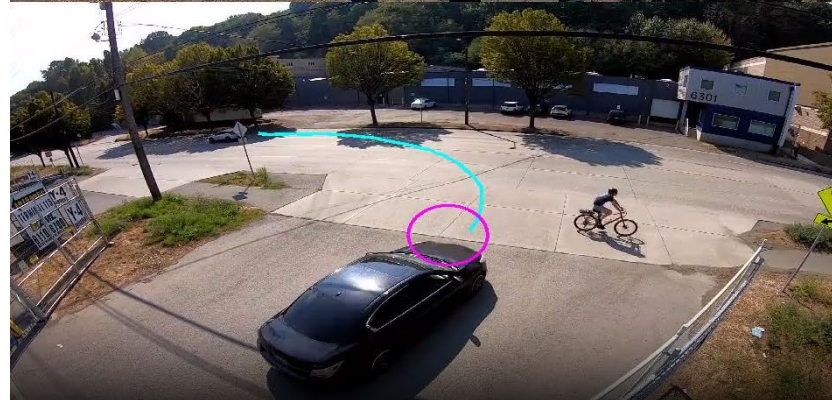
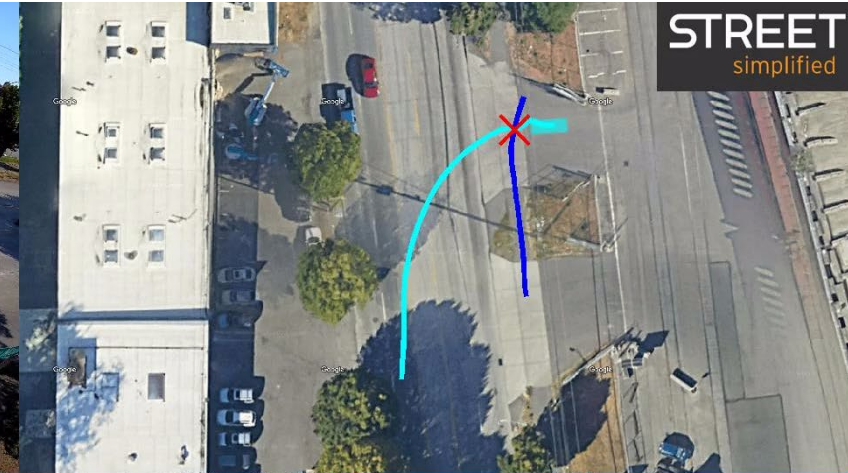
	West Marginal Way SW PBL	Duwamish Trail
<b>Morning (7am - 9am)</b>	17.27 mph	17.88 mph
<b>Afternoon (4pm - 6pm)</b>	17.15 mph	14.33 mph
<b>Saturday Peak</b>	12.65 mph	12.93 mph

	Burke-Gilman Trail	Elliott Bay Trail	Alki Beach Trail
85 <sup>th</sup> Percentile Speed	19 mph	18 mph	16 mph



# Findings: Traveler interaction analysis post-project

- There have been no crashes post-install or during final data collection at the Duwamish Trail driveway crossings
- Data collected at:
  - AML Yard 4
  - SW Front St intersection
- Collected interactions between different road users for 7-days
- Traveler interactions scored on 1-4 scale based on post-encroachment time (PET)
- 15 of 419 scored interactions involved people walking, biking or rolling
- No interaction involving trail users higher than 3

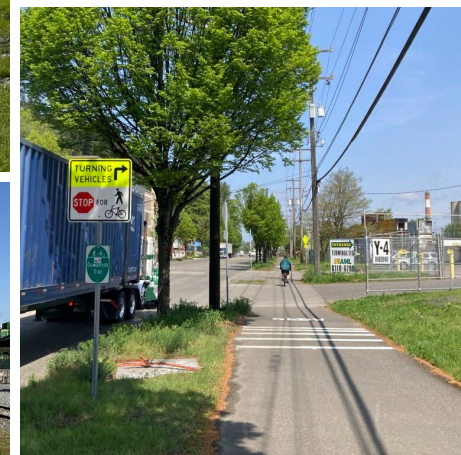
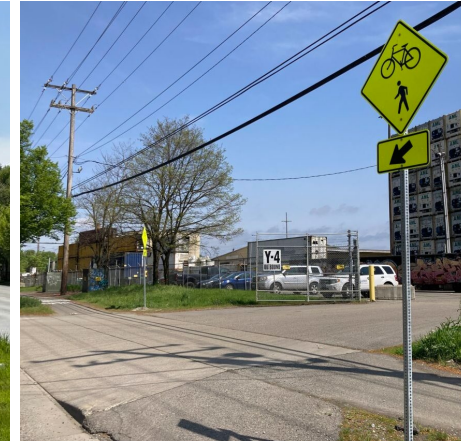


Example above: Traveler interaction score = 3, PET = 1.9 seconds

# Listening and taking action

In coordination with West Marginal Way SW adjacent industrial businesses, the project expanded to a more holistic safety view of the entire corridor. Examples of ways the project addressed concerns that we heard:

Stakeholder concern	SDOT Action	Outcome
More people using the Duwamish Trail will make truck driving more challenging where there are existing visibility issues at driveways crossing the Duwamish Trail	<ol style="list-style-type: none"> <li>1. Collision assessment of the Duwamish Trail</li> <li>2. Collected vehicle truck turning movements at all 17 driveways</li> <li>3. Collected trail user data</li> <li>4. Conducted existing conditions analysis</li> <li>5. Site walks with businesses to document where SDOT Urban Forestry (UF) needed to trim trees back</li> </ol>	<ol style="list-style-type: none"> <li>1. Documented one crash between a driver and biker</li> <li>2. Better understanding of high-volume Trail crossing locations</li> <li>3. Better understanding of trail user baseline counts and post-project comparison</li> <li>4. Added Trail pavement markings and signage for all travelers at every driveway</li> <li>5. SDOT UF trimmed trees as part of the project scope of work</li> </ol>
Crash data does not show potential crashes between travelers on the Duwamish Trail and driveways	Collected post-project data at two highest-volumes driveways to conduct "traveler interaction" analysis	Limited traveler interactions documented and with no severe potential collisions
People biking will not realize that they are in an industrial area and should be aware of trucks	Added two "truck crossing next 2 miles" signs at the north at the PBL and south at the Duwamish Trail	More signage for people biking awareness



# Project Summary

West Marginal Way SW is a safer and more predictable corridor for all travelers

Element	Description	Outcome
<b>Safer</b>	Drivers traveling at posted speed limits	<b>Trending in right direction</b> (decrease of speeds, but not to 30 mph posted speed limit)
<b>More predictable</b>	Defined space and movement for all travelers	<b>Achieved</b> (separation of all modes and increased awareness at Duwamish Trail and driveway crossings)
<b>Maintain capacity</b>	Maintain existing freight operations along corridor and to/from Port	<b>Achieved</b> (less than one second increase in travel time for drivers)
<b>Close gap in the trail network</b>	Connect the Duwamish Trail and West Seattle Bridge Trail	<b>Achieved</b> (predictable and comfortable connection)



# Next steps

- Phased delivery approach for remaining safety elements:
  - Scheduled for 2024 construction:
    - Phase 3 = ADA curb ramp and permanent sidewalk for Duwamish Longhouse crossing
      - Includes curb bulbs at SW Alaska St and the new driveway exit for the Duwamish Longhouse Cultural Center
      - Unclear timeline for east side ADA curb ramp installation until after BNSF completes their construction
  - Scheduled for 2024/2025 construction:
    - Phase 4 = SW Front St curb ramps and crosswalk
- Go here to review the West Marginal Way SW Safety Project Evaluation Report:  
[West Marginal Way SW Safety Corridor Project - Transportation | seattle.gov](https://www.seattle.gov/transportation/projects/west-marginal-way-sw-safety-corridor-project)





# Thank you!

