

Lead and Coal Studies

Public Meeting 2

November
2024





Outline

- Introduction
- Schedule
- Methodologies
- Safety Assessment
- Rest-In-Red Speed Data
- Existing and Preliminary Alternative Traffic Analyses
- Additional Safety Countermeasures
- Noise Assessment
- Progress and Next Steps / Questions



Public Meeting 1 – Tuesday, September 5, 2024

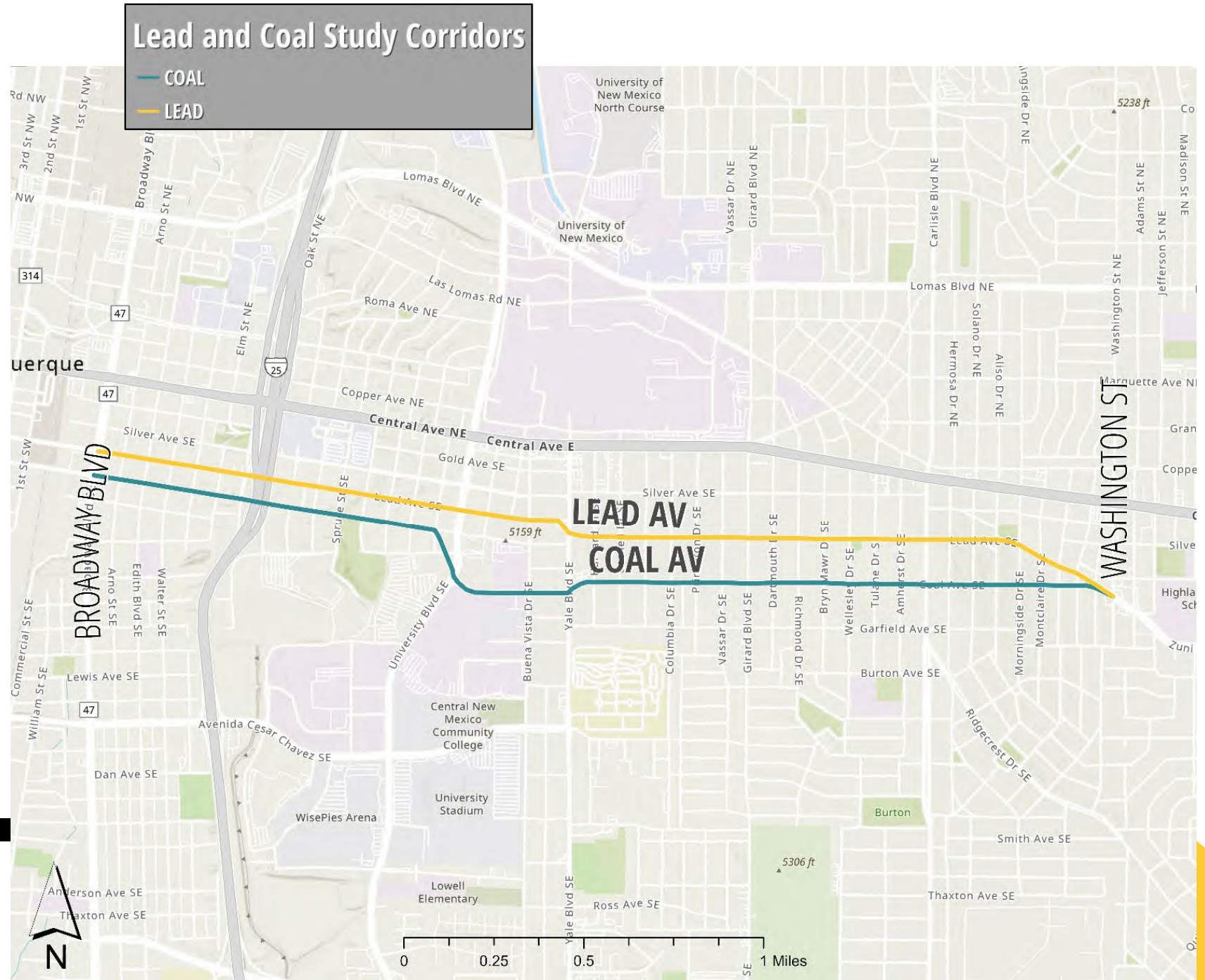
Introduction

These studies will evaluate the Lead and Coal corridors and develop and evaluate safety alternatives.

- FHWA and MPO led the Lead and Coal RSA
 - June 2022
 - 19 Findings
 - 4 Concepts advanced for additional studies
- Lead-Coal Working Group
 - November 2022
- Lead-Coal Studies Task Force
 - Meets biweekly
 - Reviews analyzed data
 - Provides input on clarity and compares with personal experience

- Functional Class
 - Principal Arterial
- Posted Speed Limit
 - 30 MPH
- Traffic Volume
 - 7,096 – 11,812 (one-way)
- Travel Lanes
 - Two (each direction)
- Length
 - Lead: 2.90 miles
 - Coal: 2.97 miles

Study Area



Task	Date
Data Collection	May/June 2024
Crash Comparison and Trend Analysis	June/July 2024
Field Visits	July 2024
Working Group (Monthly, Last Wed.)	August 28, 2024
Public Meeting 1	September 5, 2024
Alternatives Analyses	June – November 2024
Noise Assessment	September 2024
Task Force Meeting (Monthly, 1 st Wed.)	October 16, 2024
Public Meeting 2	November 14, 2024
Public Meeting 3	December 18, 2024
Final Report	January 2025

Schedule



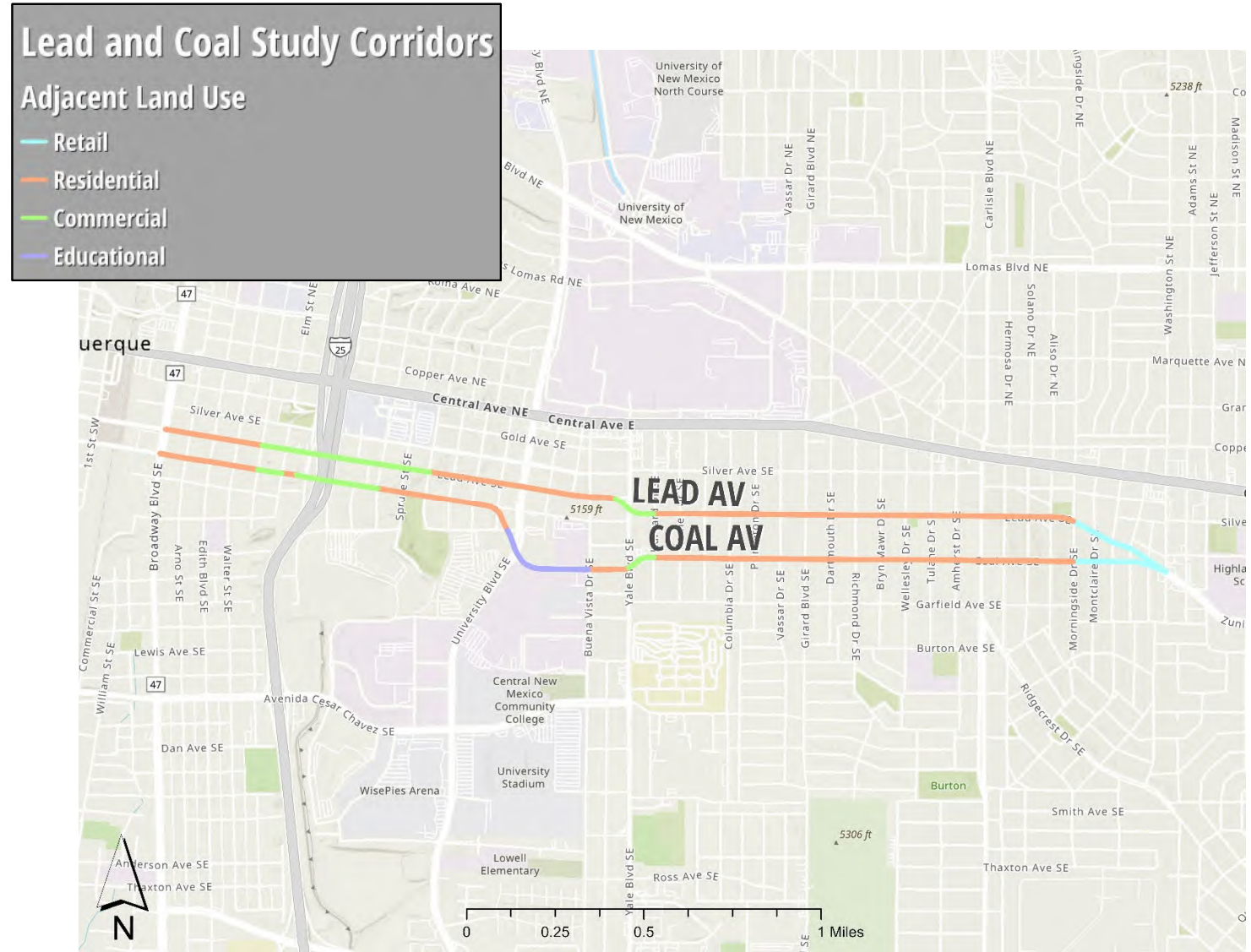


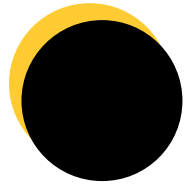
Scope

- Evaluate Alternatives for Safety and Operations
 - Speed Limit Reduction
 - Single Lane Operation
 - Two-way Operation
 - Noise Assessment

Progress Report

- Crash Data Assessment – Complete
- Traffic Model Trends – Established
 - Next Steps - Diverted Trips
- Results by Segments

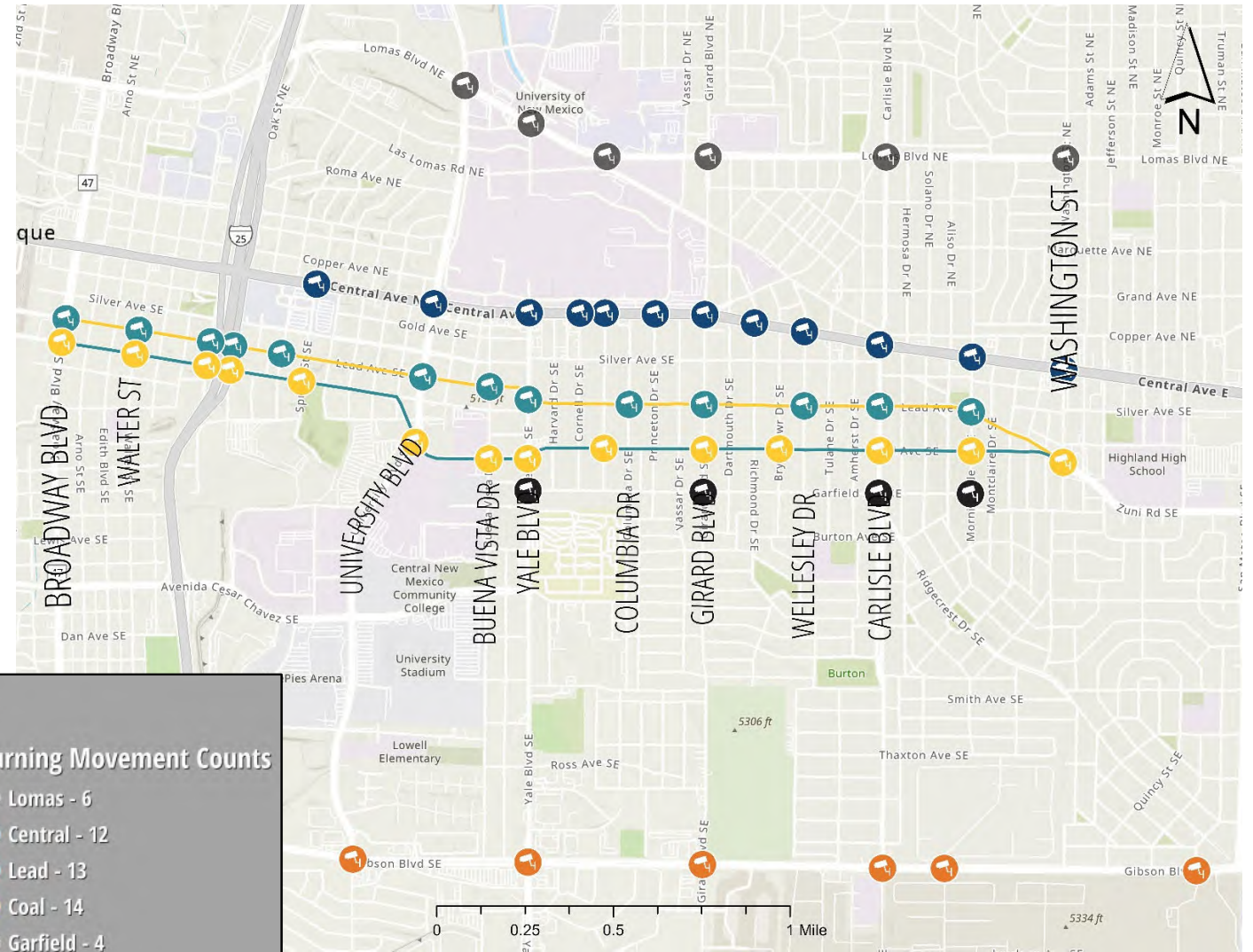




Methodologies

Data Collection

- Crash Data
- Turning Movement Counts
- Noise Assessments



Lead and Coal Studies

Study Corridors	Turning Movement Counts
— Coal Ave	🚗 Lomas - 6
— Lead Ave	🚗 Central - 12
	🚗 Lead - 13
	🚗 Coal - 14
	🚗 Garfield - 4
	🚗 Gibson - 6





Methodologies (cont.)

- Evaluate Alternatives for Safety and Operations
 - Highway Safety Manual
 - Current Crashes vs Predicted Crashes
 - Highway Capacity Manual
 - Assessment for Alternatives (Delay, Travel Times)
 - Speed Limit Reduction
 - Single Lane Operation
 - Two-way Operation
 - Bicycle and Pedestrian LOS

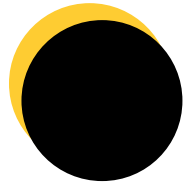


Source: <https://www.kunm.org/local-news/2021-05-18/lead-coal-crashes-continue-as-neighbors-await-study>

Signalized Intersection Rates

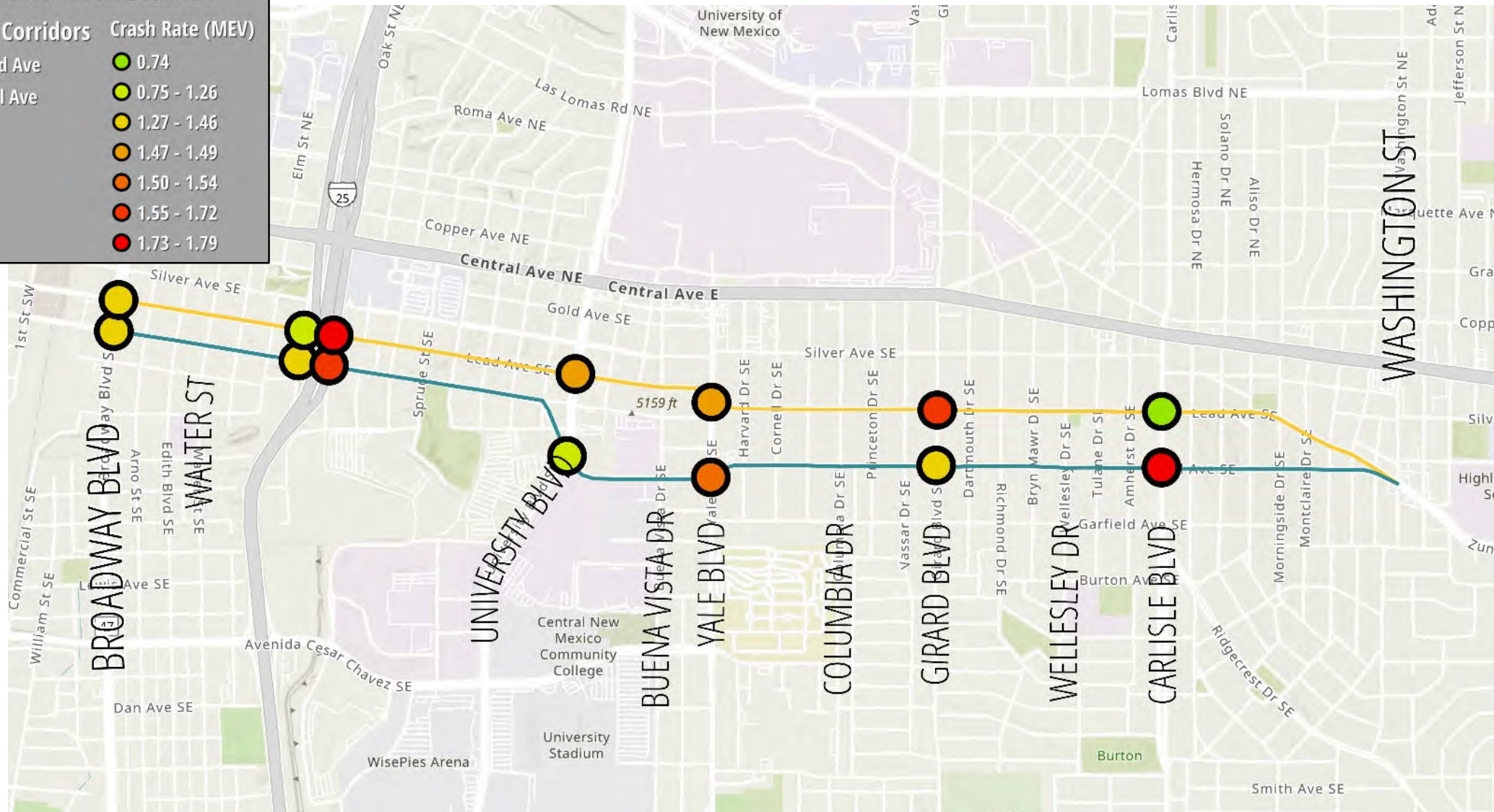
- Crashes per Million Entering Vehicles
- All Crashes

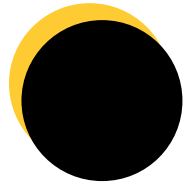
$$MEV = \frac{1,000,000 * C}{365 * V * N}$$



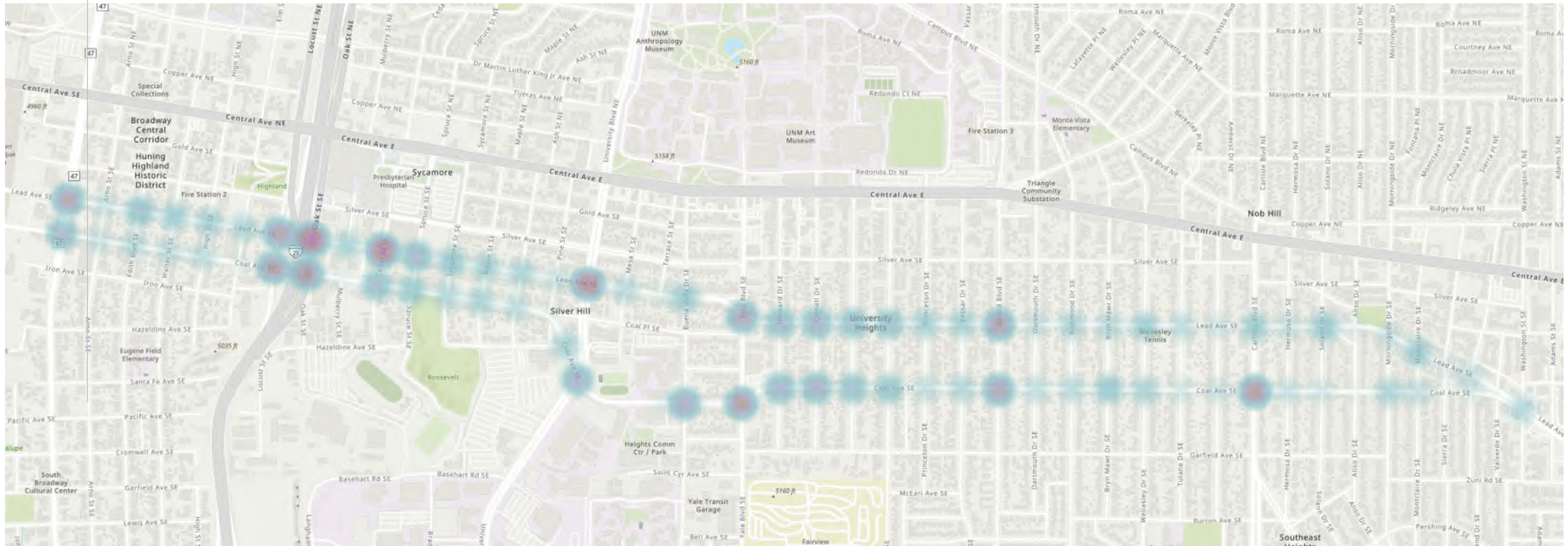
Lead/Coal Signalized Intersection Crash Rates

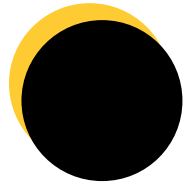
Lead and Coal Studies	
Study Corridors	Crash Rate (MEV)
Lead Ave	0.74
Coal Ave	0.75 - 1.26
	1.27 - 1.46
	1.47 - 1.49
	1.50 - 1.54
	1.55 - 1.72
	1.73 - 1.79





Crash Heat Map (2013-2022)





Rest-in-Red Speed Data

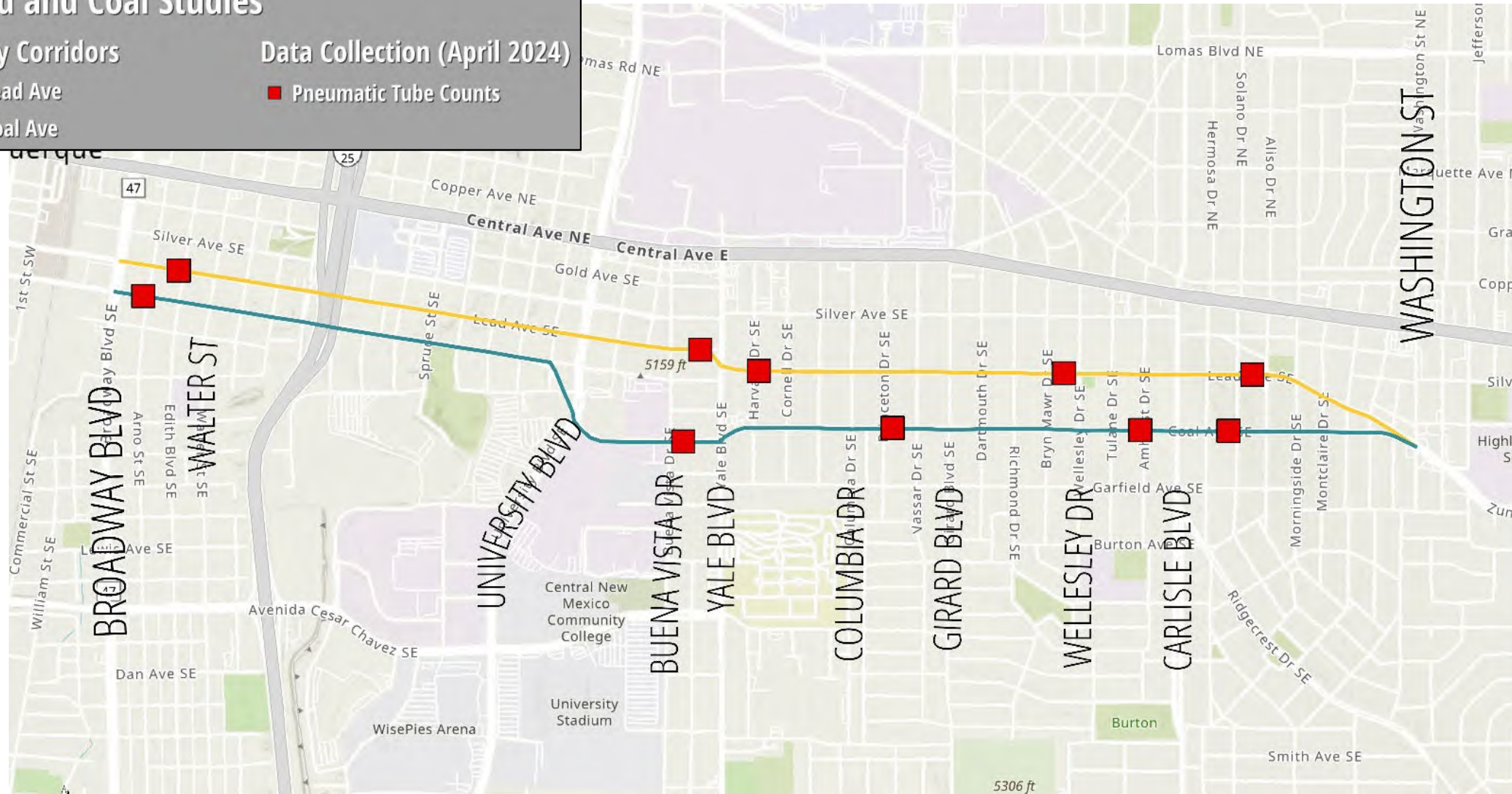
Lead and Coal Studies

Study Corridors

- Lead Ave
- Coal Ave

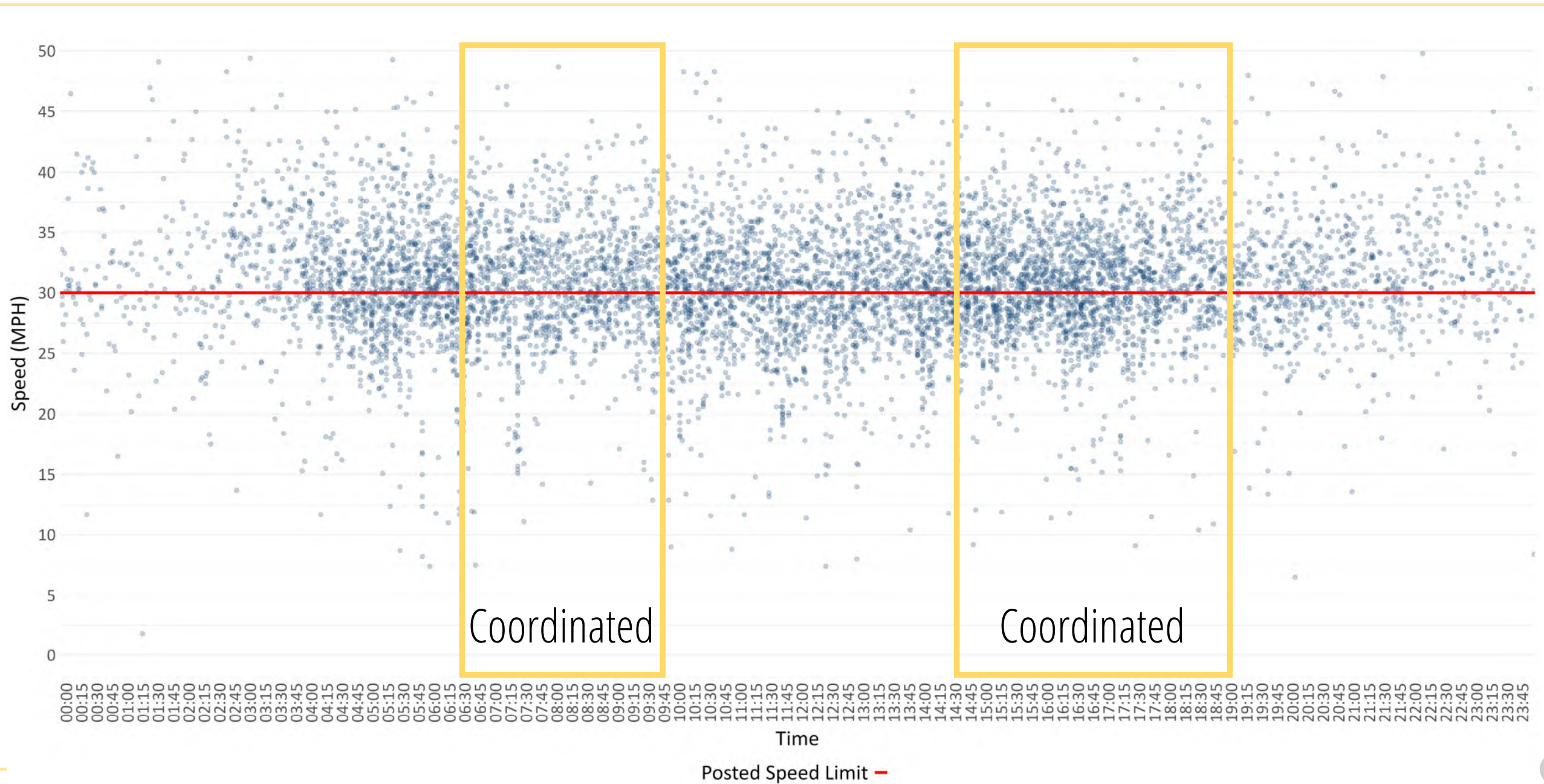
Data Collection (April 2024)

- Pneumatic Tube Counts



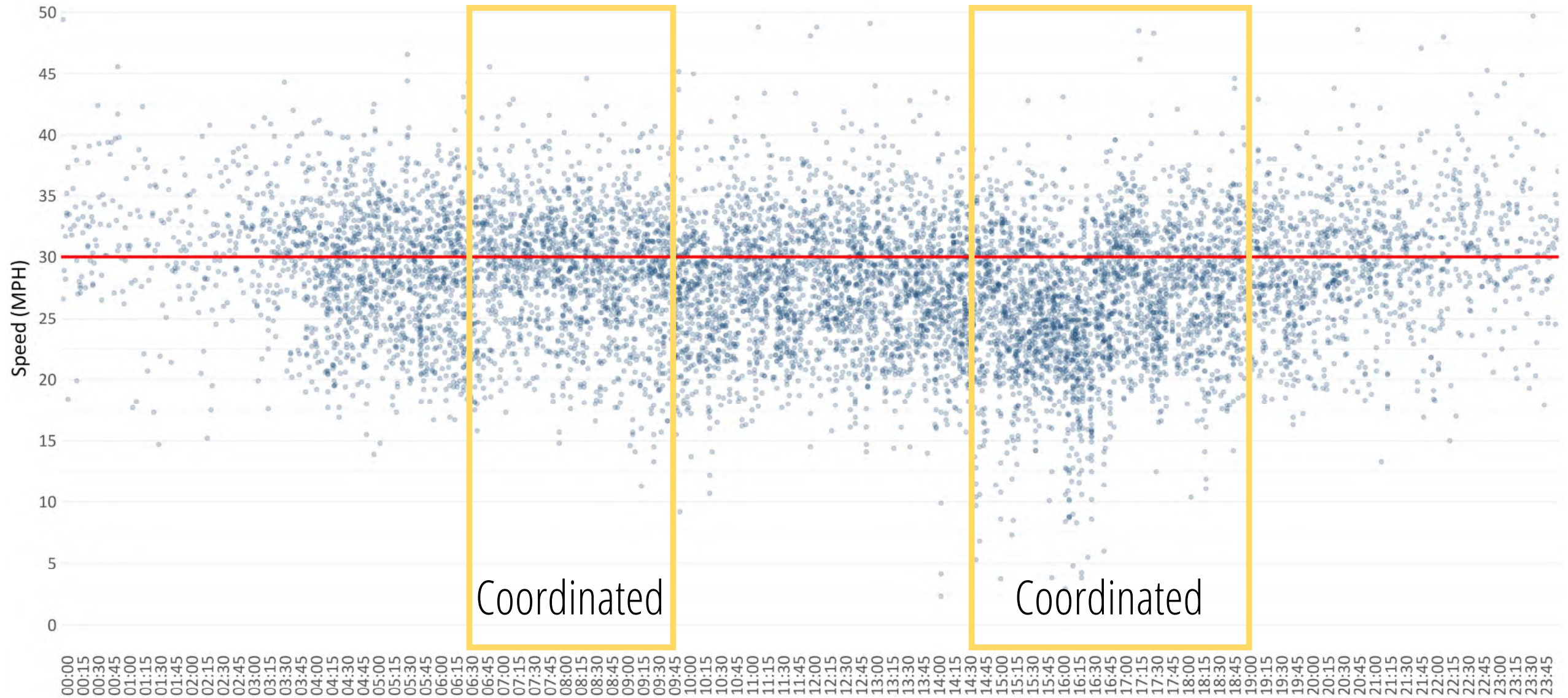
Counted on Wednesday, April 10, 2024

Coal - Arno



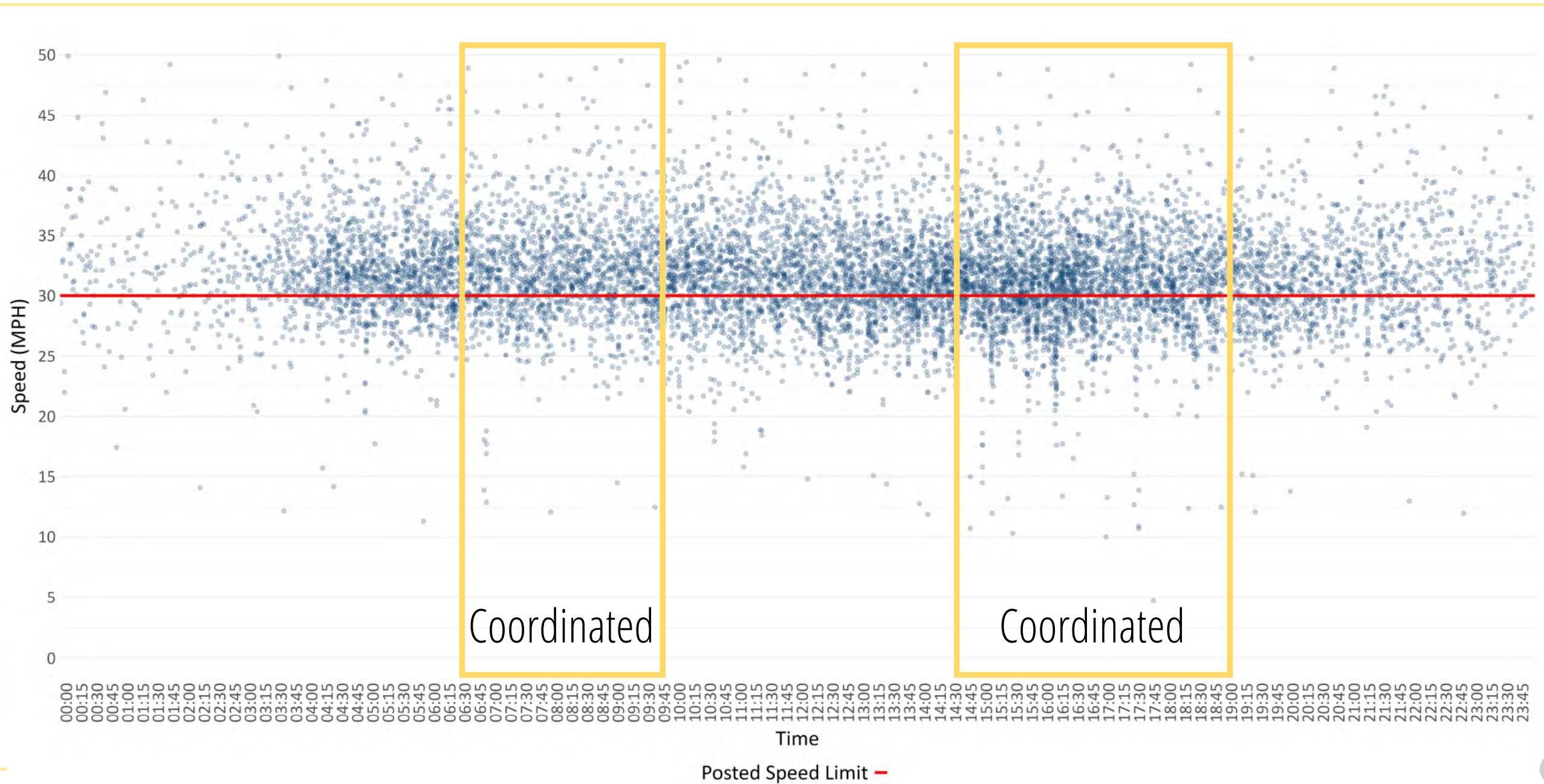
Counted on Wednesday, April 10, 2024

Coal – Buena Vista



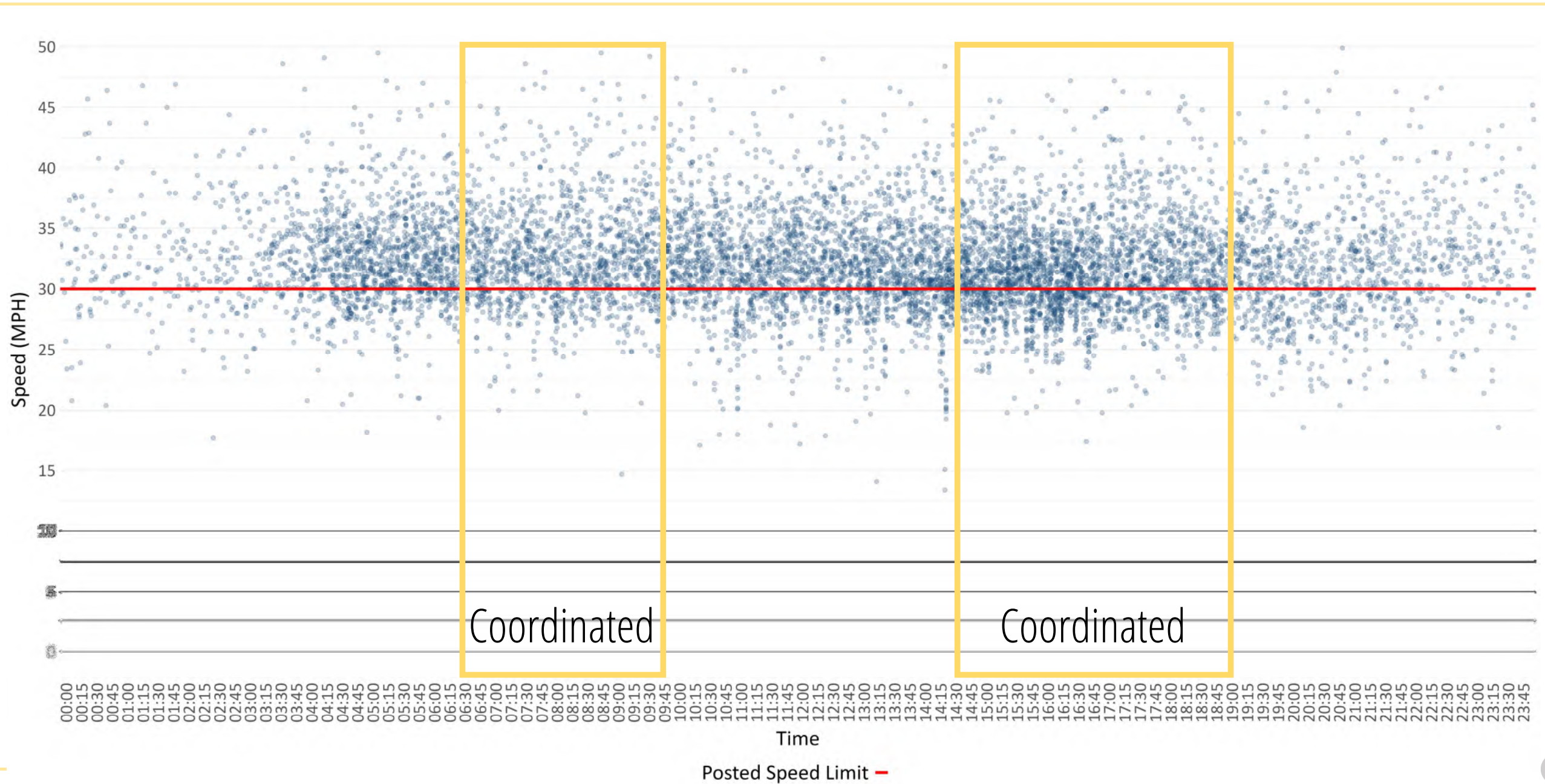
Counted on Wednesday, April 10, 2024

Coal – Vassar



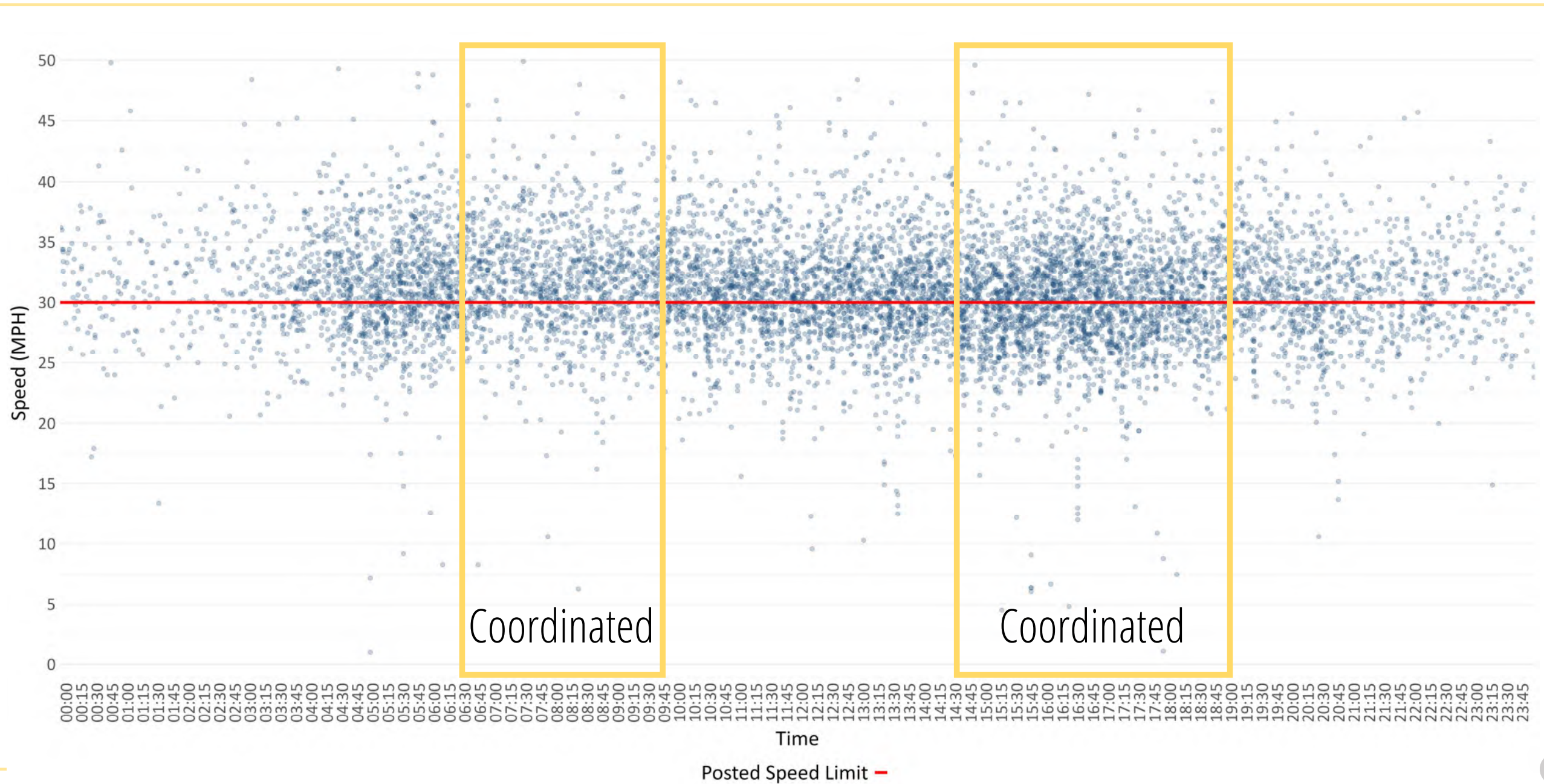
Counted on Wednesday, April 10, 2024

Coal - Tulane



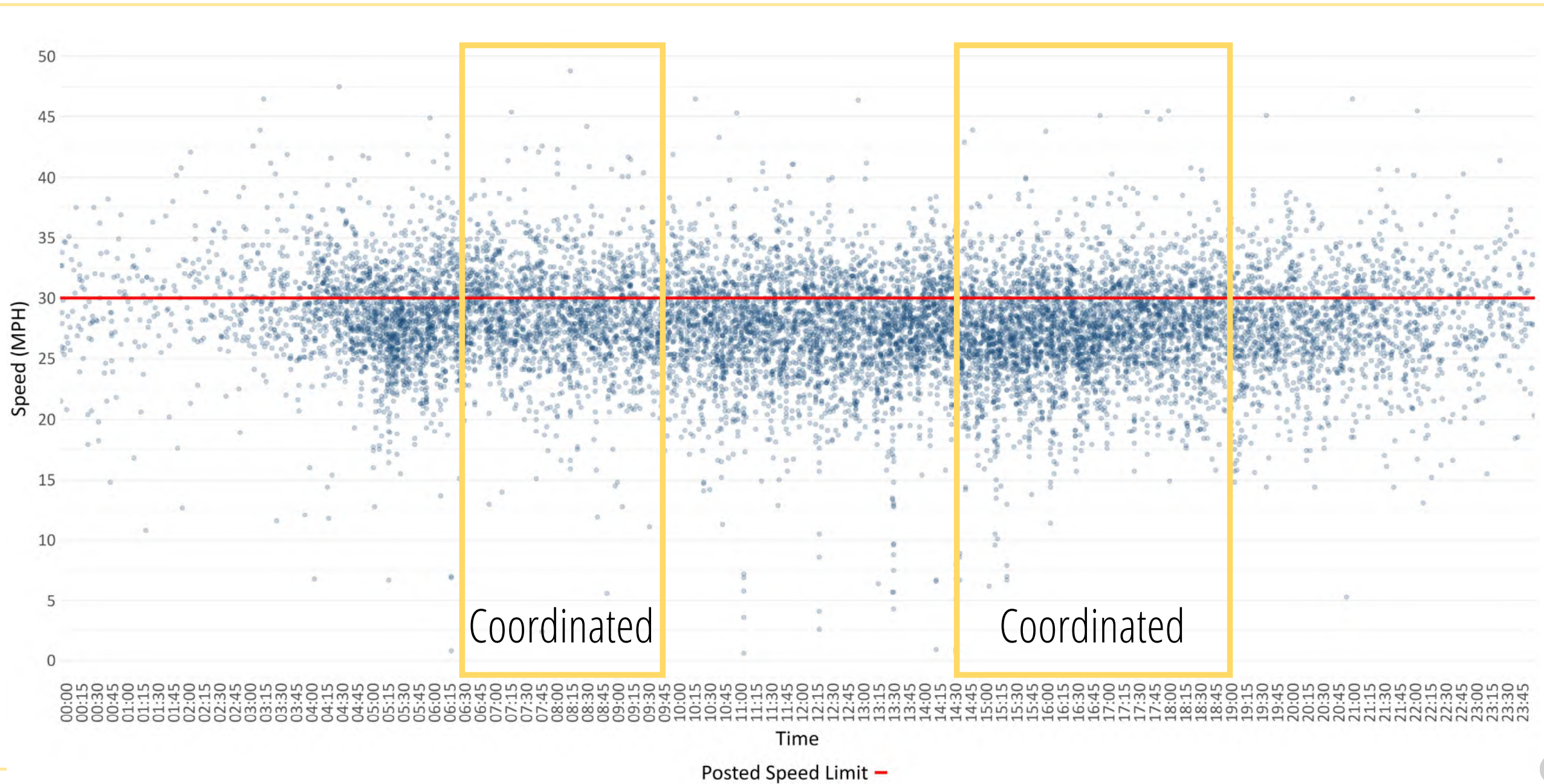
Counted on Wednesday, April 10, 2024

Lead - Aliso



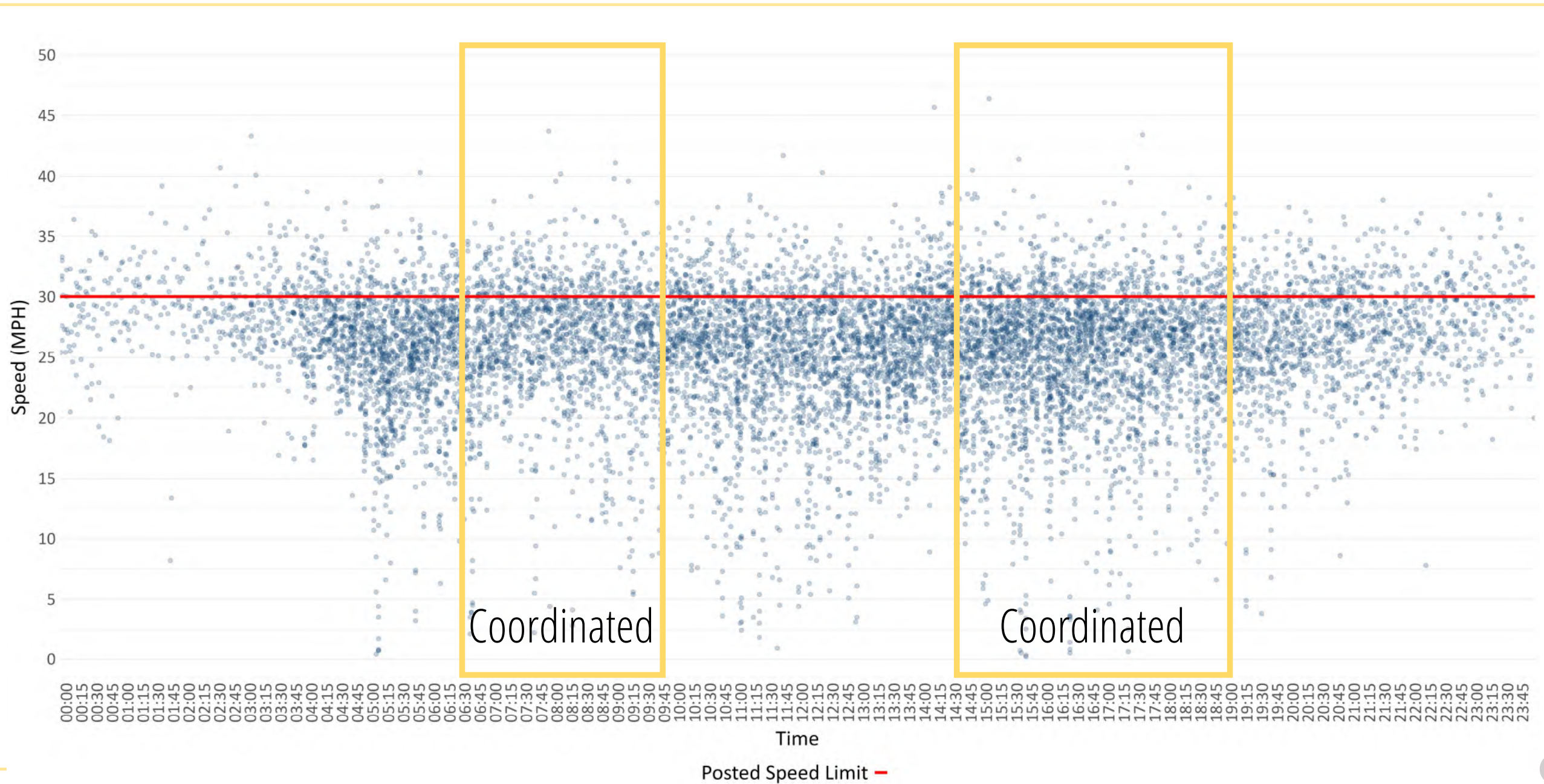
Counted on Wednesday, April 10, 2024

Lead – Harvard



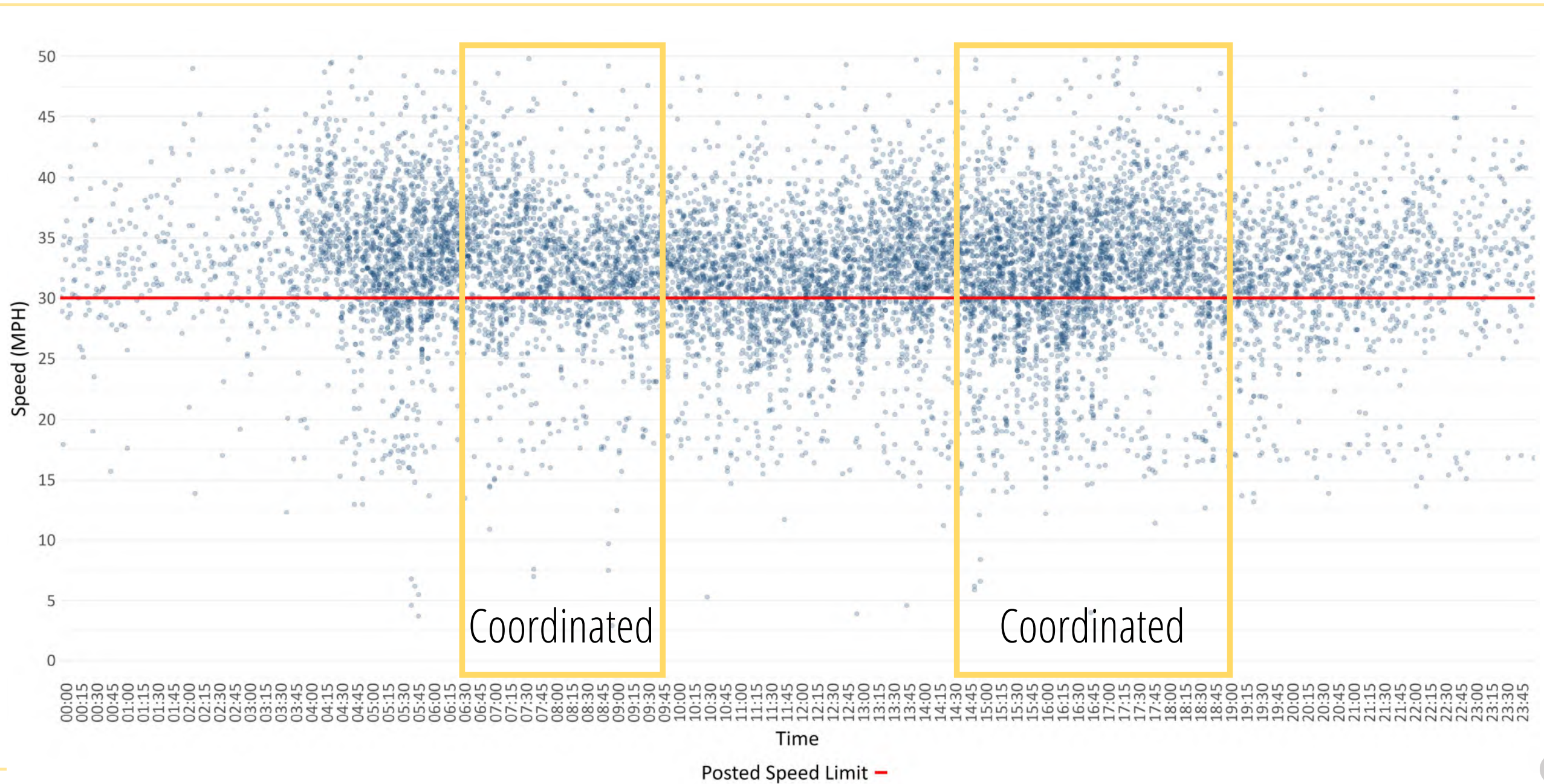
Counted on Wednesday, April 10, 2024

Lead – Buena Vista

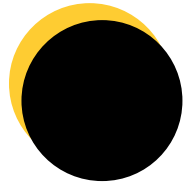


Counted on Wednesday, April 10, 2024

Lead – Edith



Synchro Traffic Simulation Results



Existing Intersection LOS - AM

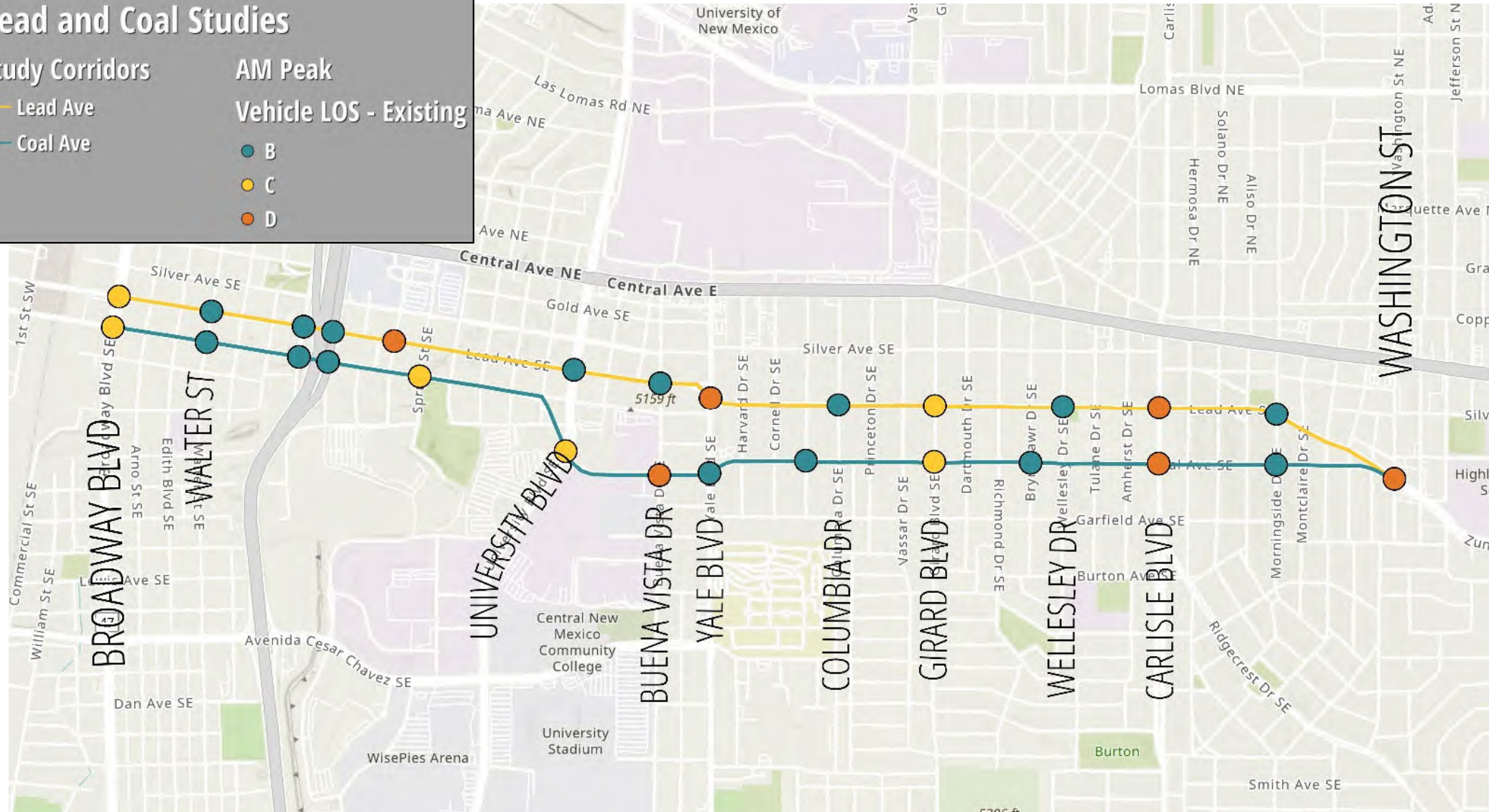
Lead and Coal Studies

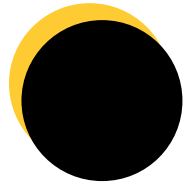
Study Corridors

- Lead Ave
- Coal Ave

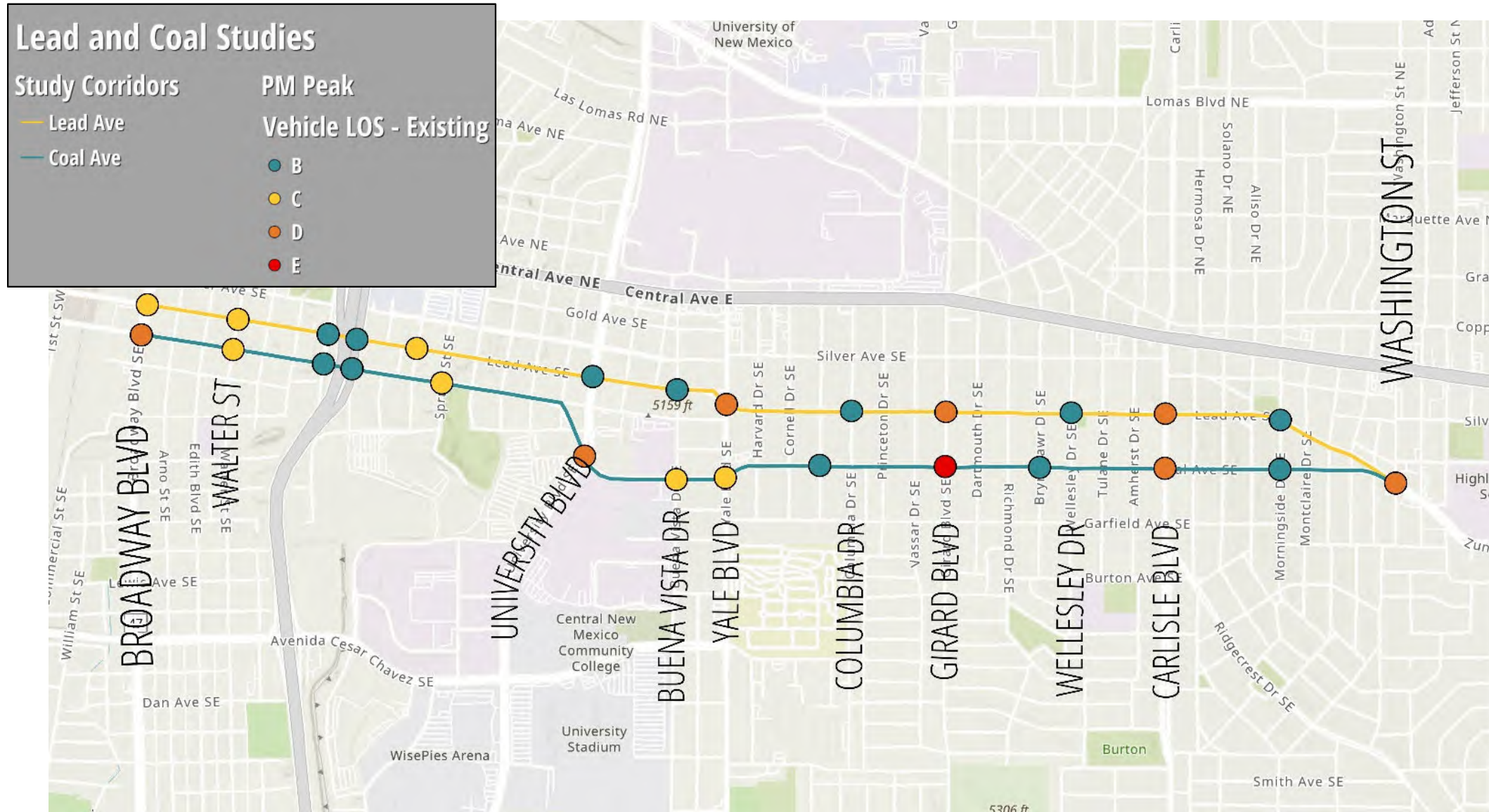
AM Peak Vehicle LOS - Existing

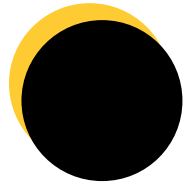
- B
- C
- D



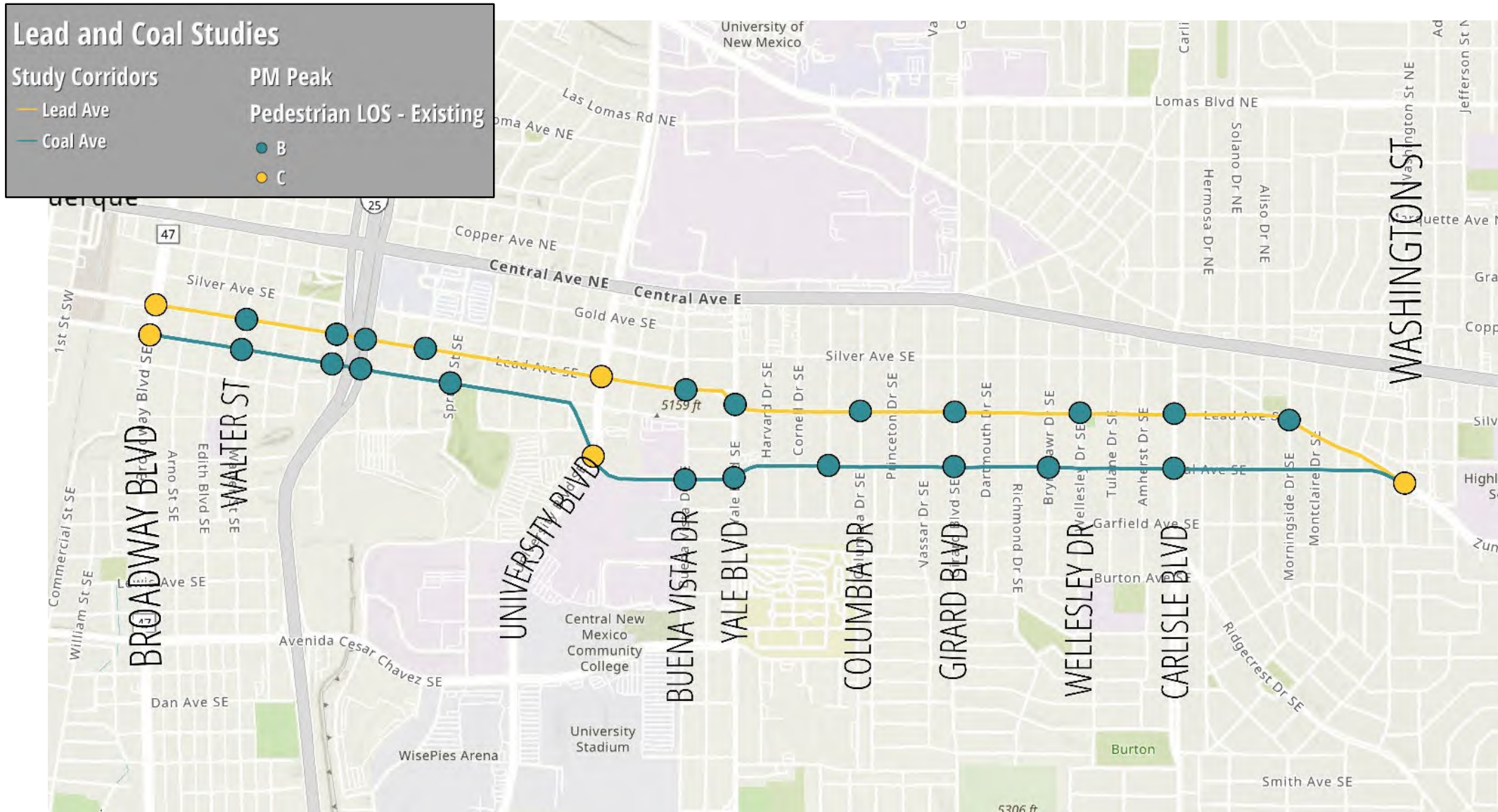


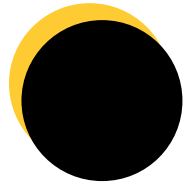
Existing Intersection LOS - PM





Existing Pedestrian LOS

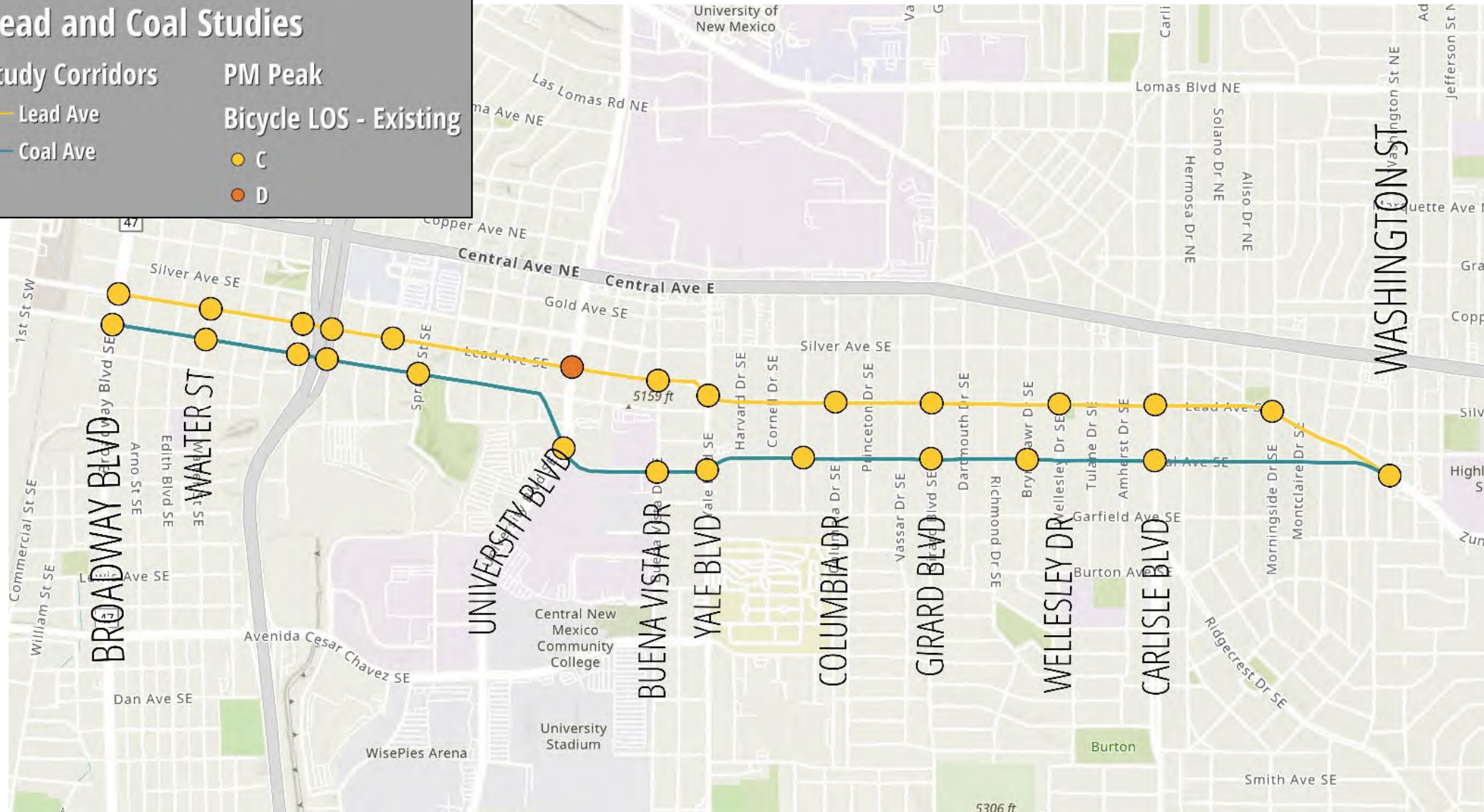




Existing Bicycle LOS

Lead and Coal Studies

Study Corridors	PM Peak
— Lead Ave	Bicycle LOS - Existing
— Coal Ave	● C
	● D

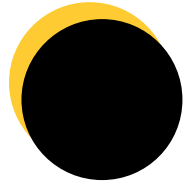


Preliminary Summary of Alternative Analyses

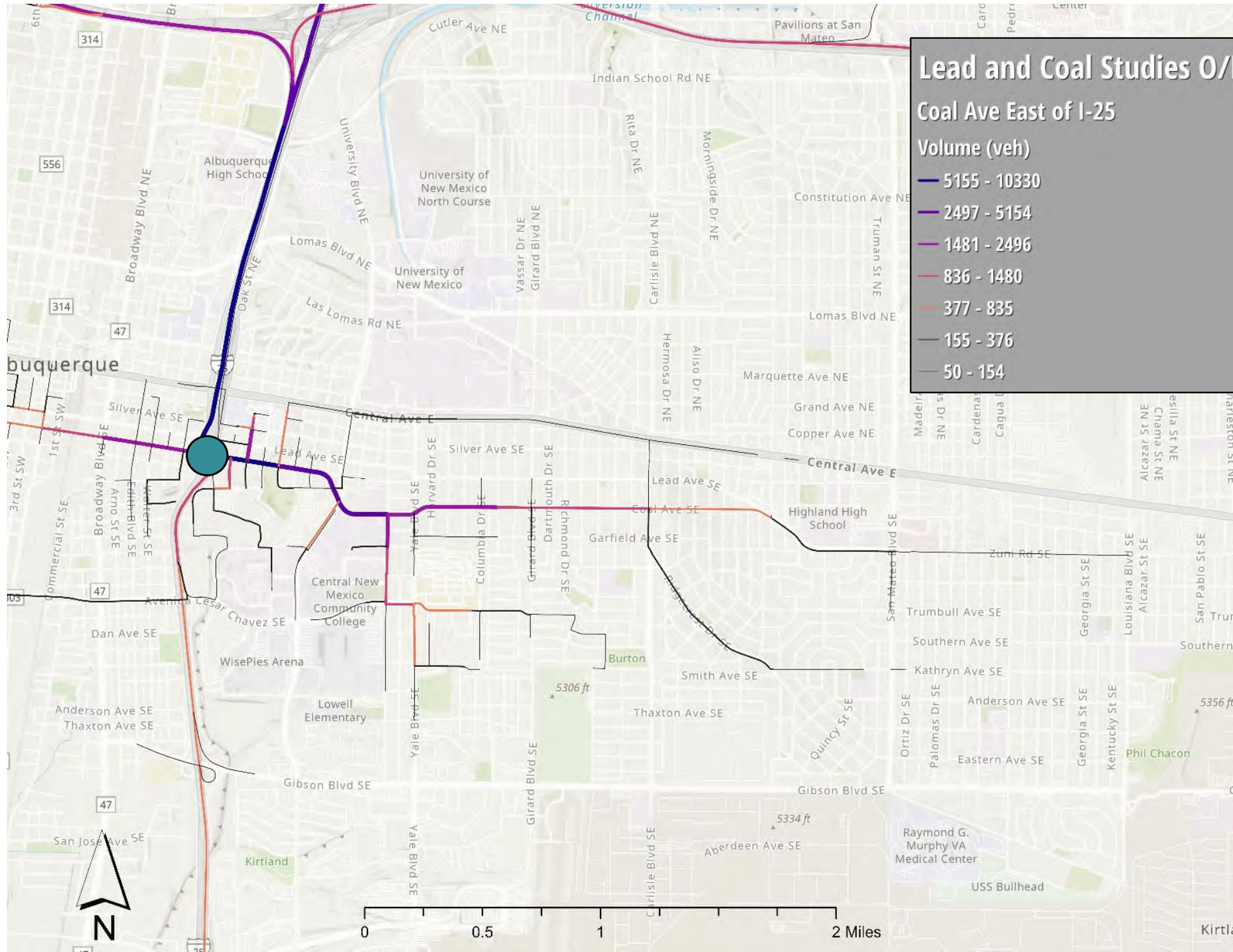
			Existing	Speed Limit Reduction	One Lane Operation	Two-Way Operation
Lead Ave	Vehicle	AM	Green	Green	Green	Green
		PM	Green	Green	Yellow	Yellow
	Pedestrian	AM	Green	Green	Green	Green
		PM	Green	Green	Green	Green
	Bicycle	AM	Green	Green	Yellow	Green
		PM	Light Green	Light Green	Yellow	Light Green
Coal Ave	Vehicle	AM	Green	Green	Green	Green
		PM	Light Green	Light Green	Yellow	Yellow
	Pedestrian	AM	Green	Green	Green	Green
		PM	Green	Green	Green	Green
	Bicycle	AM	Green	Green	Light Green	Green
		PM	Light Green	Light Green	Yellow	Light Green
Cost			0\$	\$	\$\$-\$\$\$\$	\$\$\$\$\$\$\$\$\$\$
Safety			0	N/C	↑	↑



Origin – Destination Research



Origin/Destination Analysis



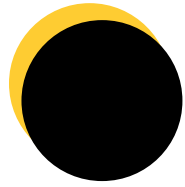
Lead and Coal Studies O/D Analysis

Coal Ave East of I-25

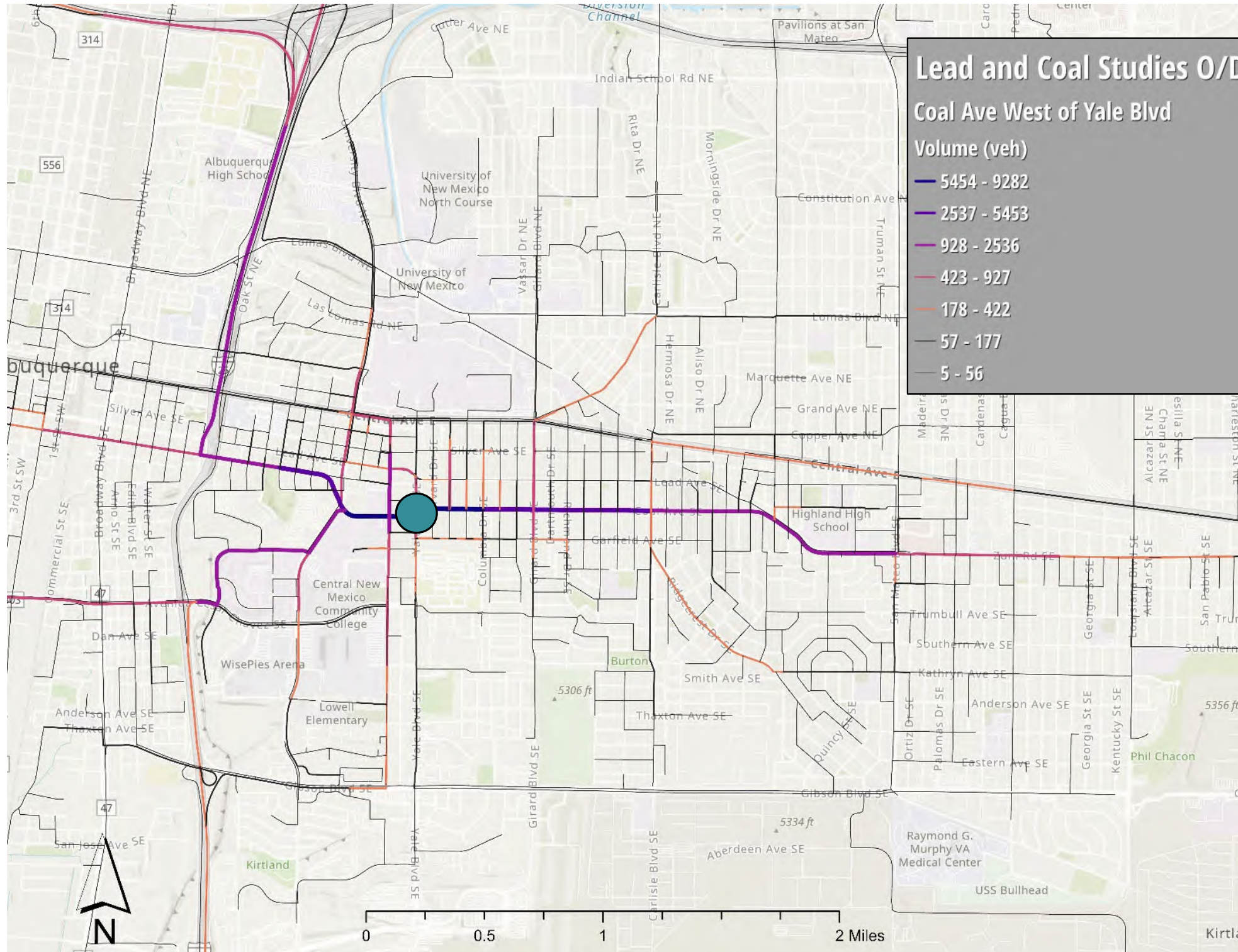
Volume (veh)

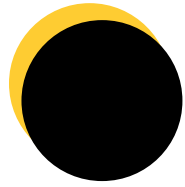
- 5155 - 10330
- 2497 - 5154
- 1481 - 2496
- 836 - 1480
- 377 - 835
- 155 - 376
- 50 - 154



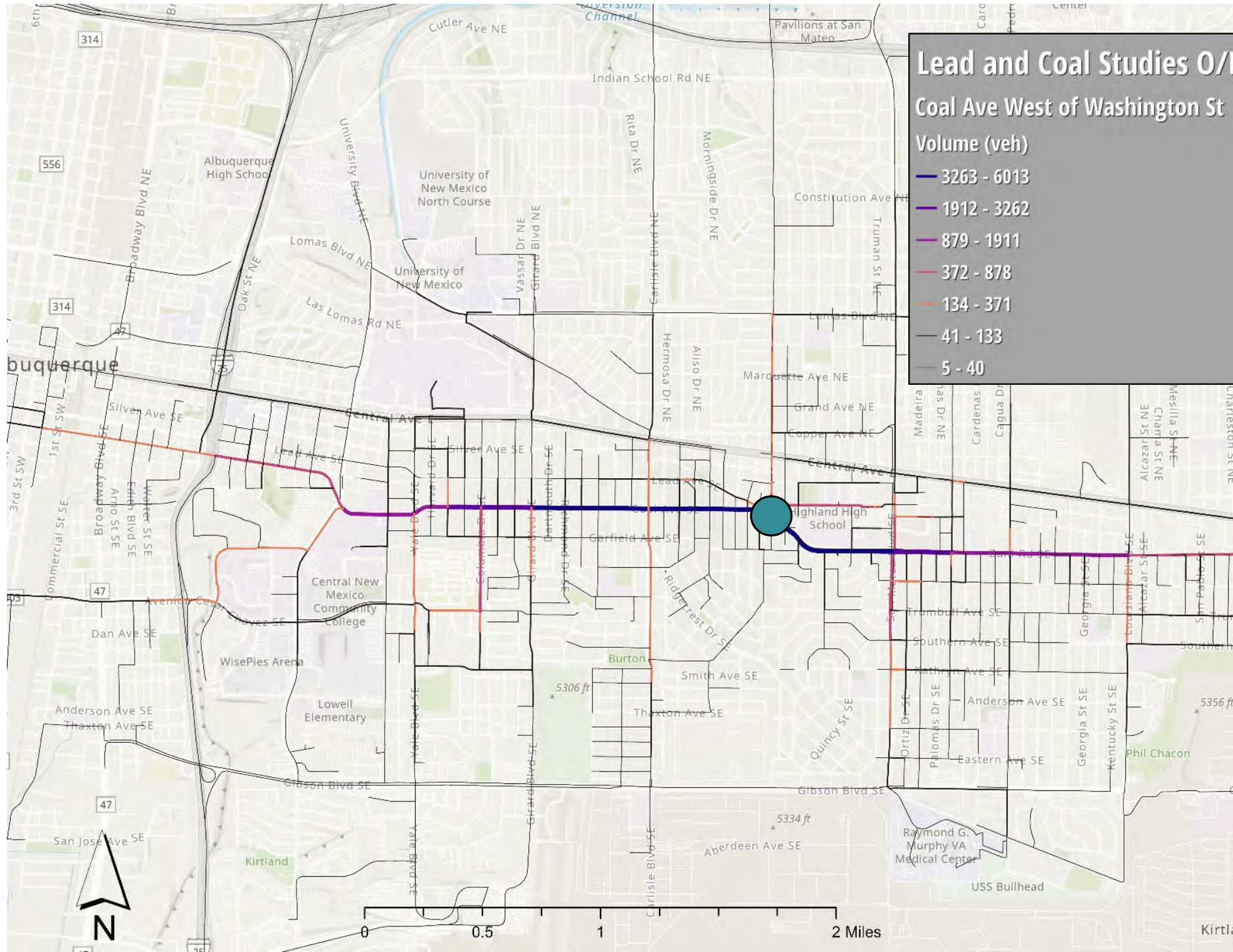


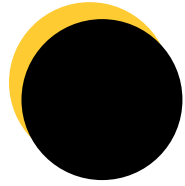
Origin/Destination Analysis



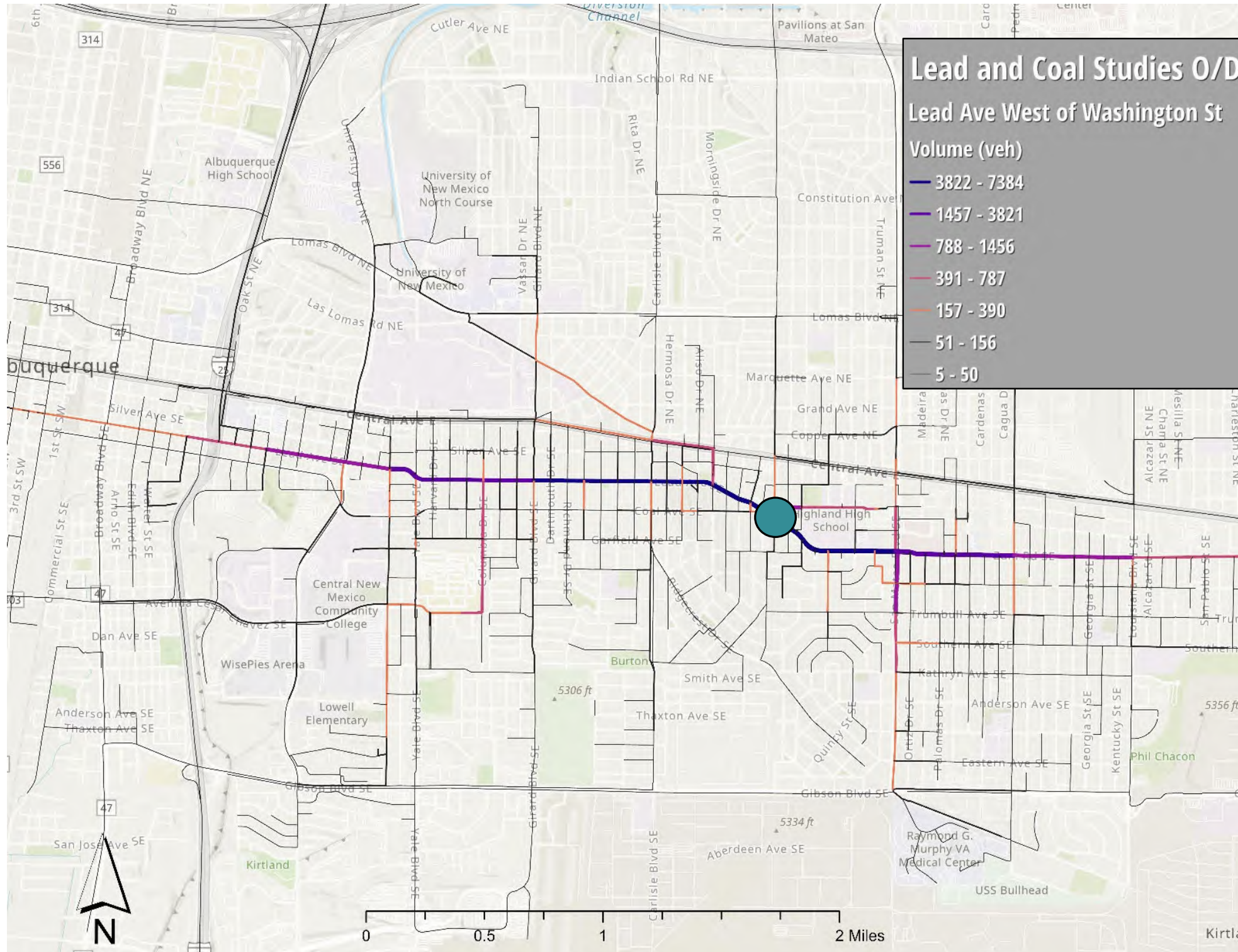


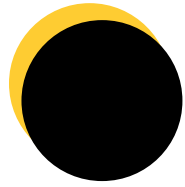
Origin/Destination Analysis



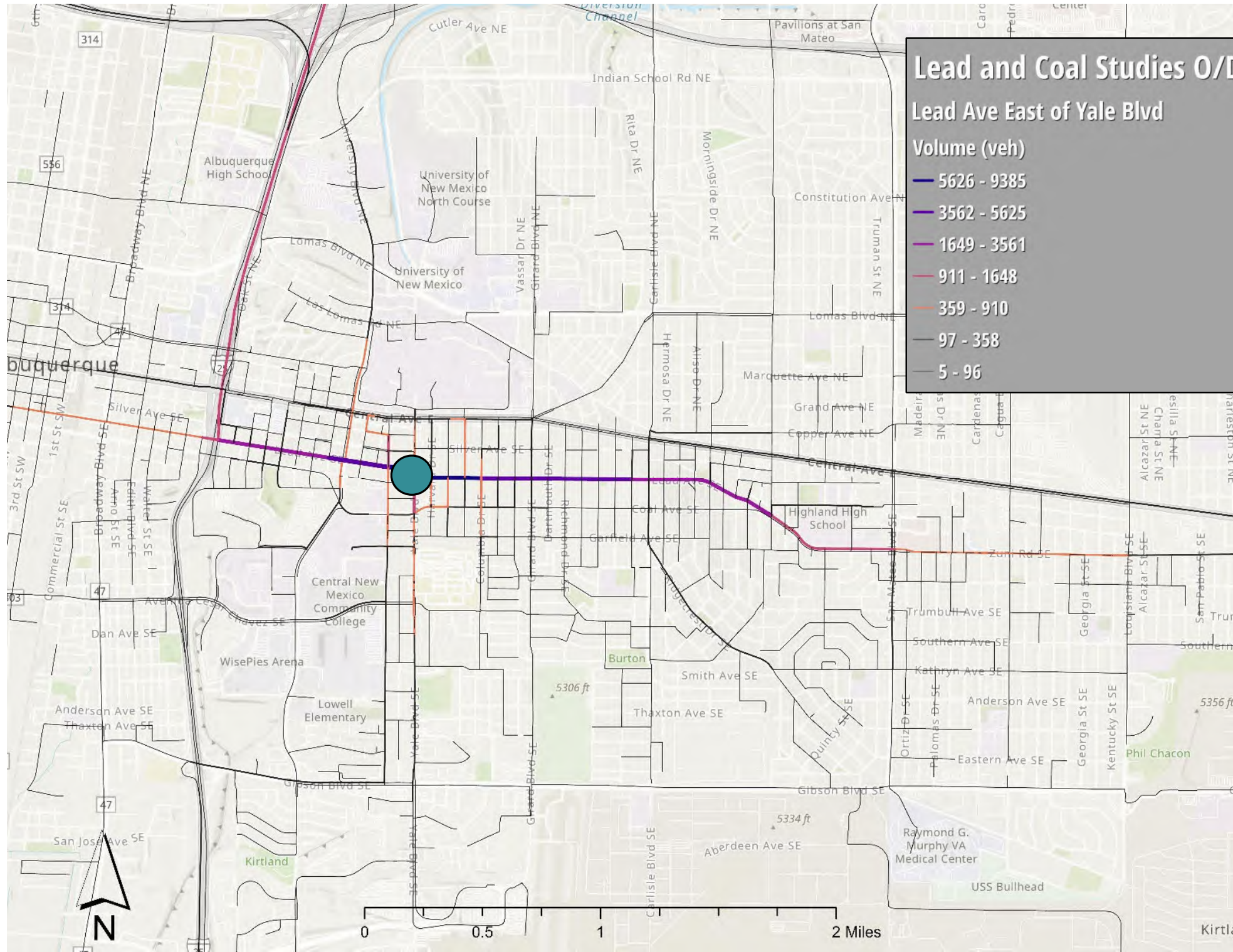


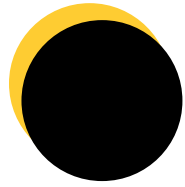
Origin/Destination Analysis



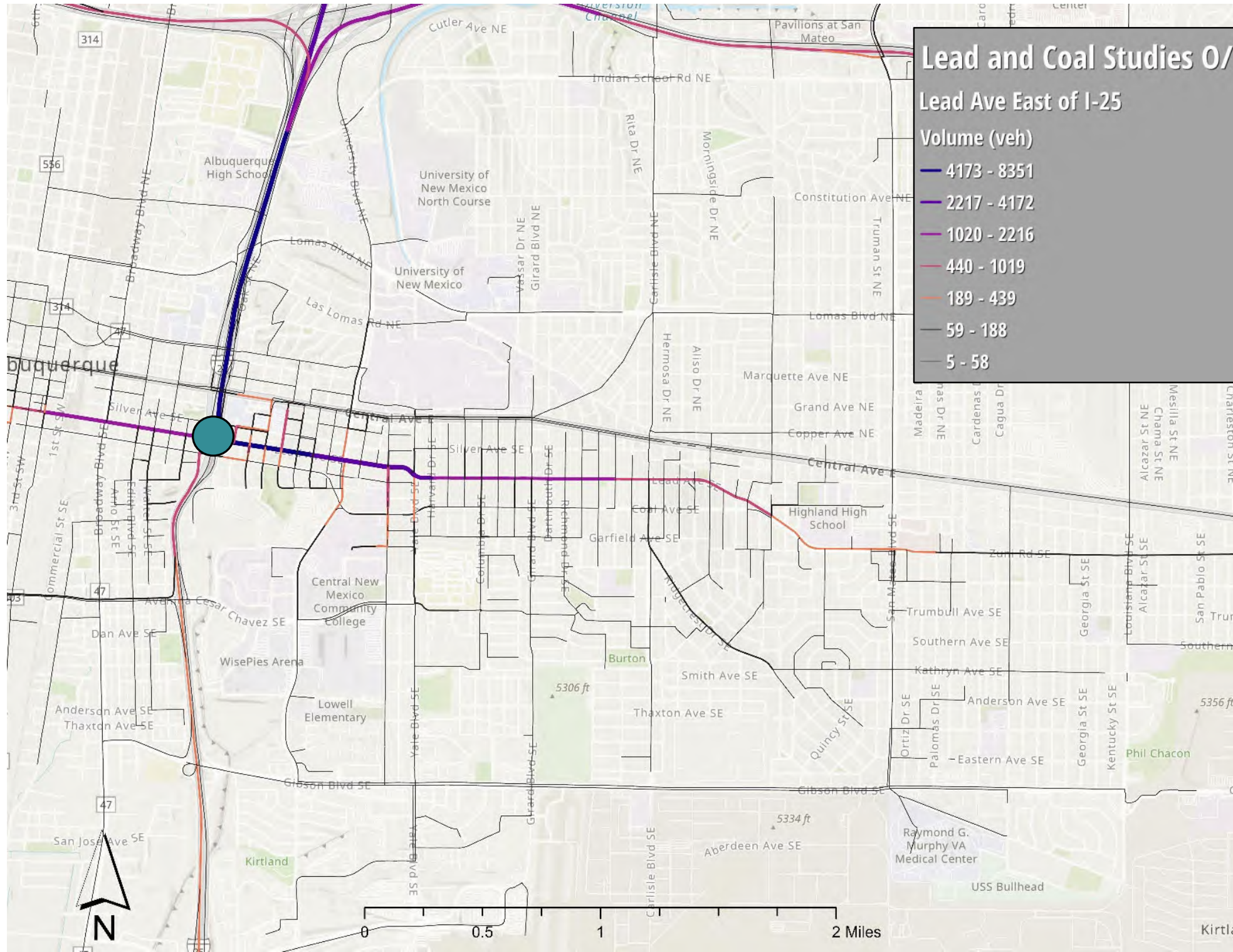


Origin/Destination Analysis





Origin/Destination Analysis



Additional Safety Countermeasures

- Reducing Lane Widths by adding Buffers to the Bicycle Lanes
- Changing the Environment with Vertical Objects
- Increasing the Width of Edge Striping to 6 or 8 inches



Separated Bike Lanes

Image retrieved from
https://westerntransportationinstitute.org/wp-content/uploads/2017/01/fhwahep17024_lg.pdf



Protected Bike Lanes

Image retrieved from
<https://www.longbeach.gov/goactive/b/mobility-toolkit/bicycle-treatments/protected-bike-lanes/>



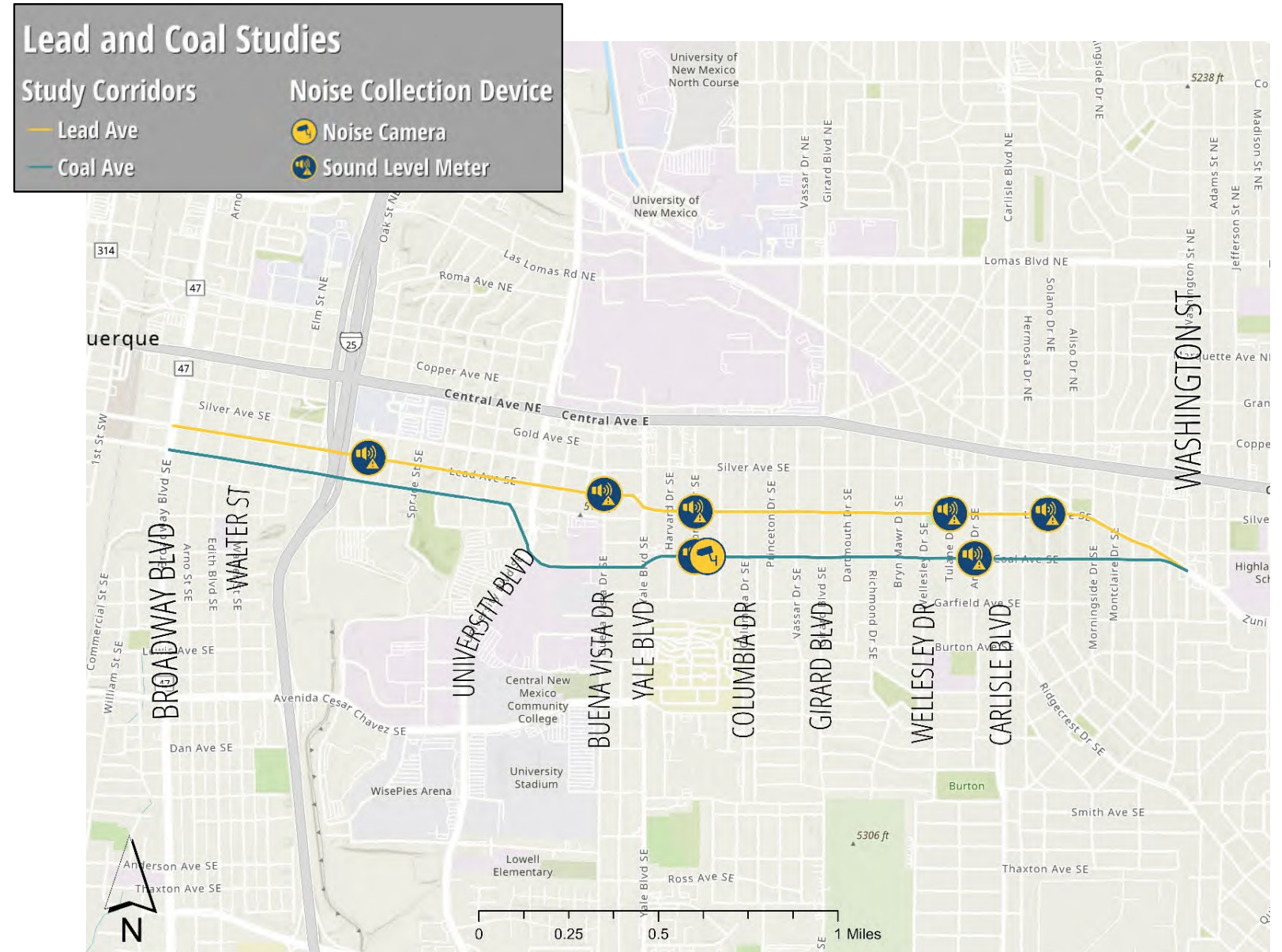
Wider Edge Lines

Image retrieved from
<https://tti.tamu.edu/tti-publication/an-evaluation-of-the-effectiveness-of-wider-edge-line-pavement-markings/>

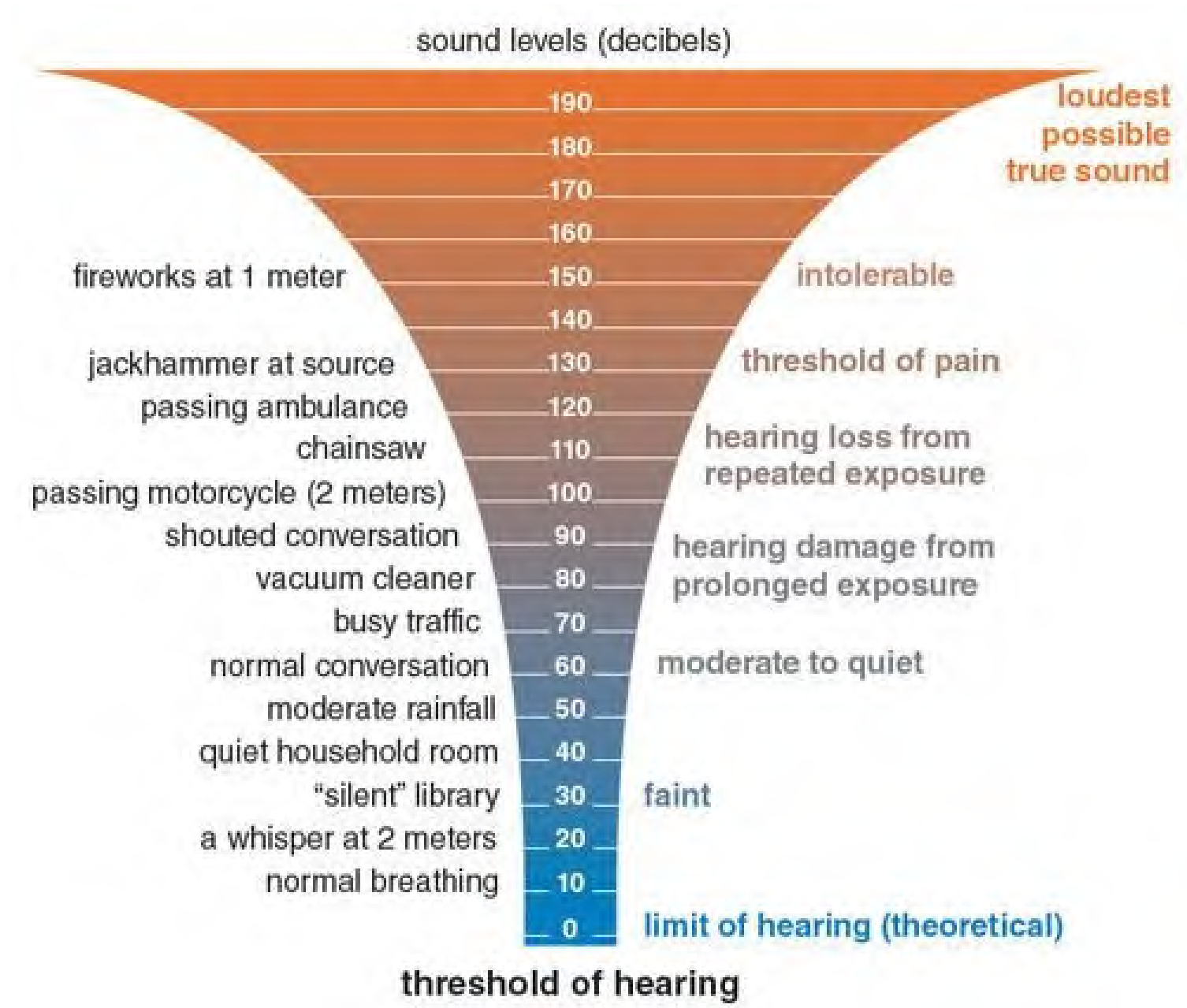


Noise Assessment – Preliminary Analysis

- Sound Level Meter
 - Tuesday, 9/24/24 – Thursday, 9/26/24
- Noise Camera
 - Tuesday, 9/24/24 – Thursday, 9/26/24
- Approaching 66 dB is the residential limit per FHWA guidance.
- Large Trucks do not appear to be the problem, suggesting the truck restriction is working.
- Most sound triggers were motor vehicles.



Noise Level References



Average Noise Levels in dB(A)

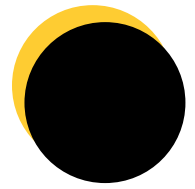
Location	All Day	Day 07:00-19:00	Night 19:00-07:00	Loudest Hour	
				dB(A)	Start Time
Lead & Solano	57.1	61.6	51.7	65.1	8:23:07 AM
Lead & Tulane	57.8	62.6	52.0	65.9	7:22:49 AM
Lead & Cornell	59.4	63.6	54.2	67.3	7:16:07 AM
Lead & Buena Vista	57.2	61.2	53.0	64.3	7:30:49 AM
Lead & Mulberry	61.9	64.9	58.2	68.1	7:09:35 AM
Lead & Edith	59.8	64.0	54.9	68.7	7:35:42 AM
Coal & Cornell	58.7	63.4	53.0	66.1	7:32:16 AM
Coal & Amherst	56.5	59.8	51.5	62.5	7:34:11 AM

*(values approaching or exceeding FHWA's noise abatement criteria [≥ 66] in **red**)*

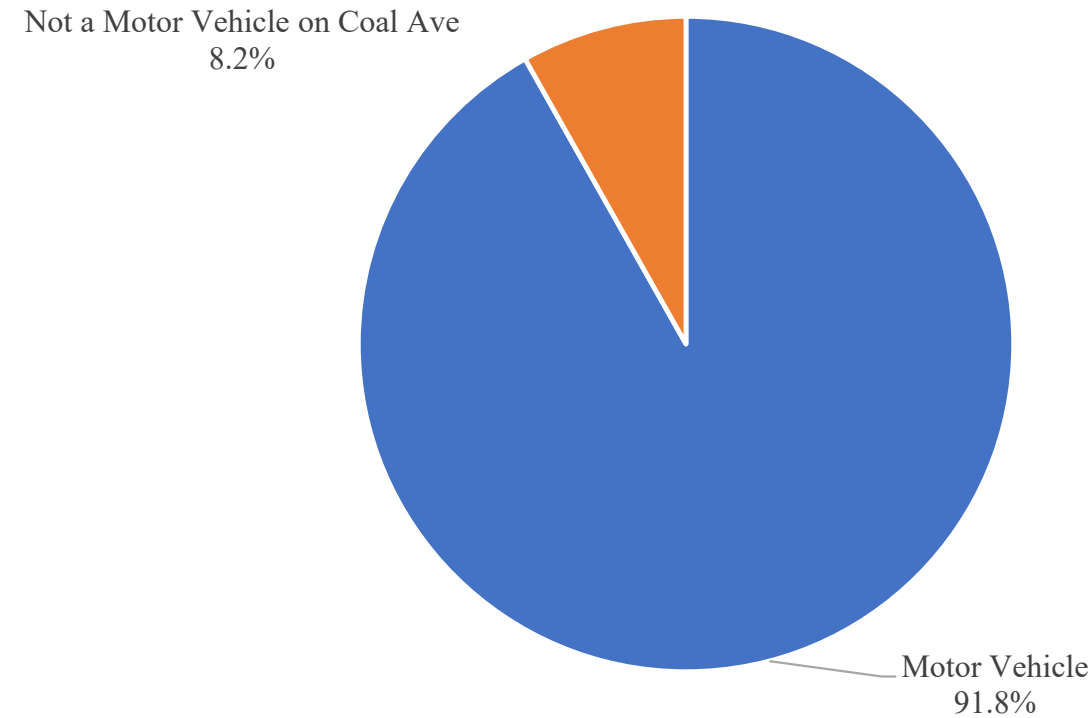


High-Noise Event Rates

Location	≥80 dB(A) rate of minutes/event			≥90 dB(A) rate of hours/event		
	All Day	Day 07:00-19:00	Night 19:00-07:00	All Day	Day 07:00-19:00	Night 19:00-07:00
Lead & Solano	6.2	4.0	18.7	2.1	1.3	8.0
Lead & Tulane	19.6	12.6	60.0	7.6	4.8	24.0
Lead & Cornell	13.5	8.9	36.0	7.6	5.8	12.0
Lead & Buena Vista	29.6	20.4	57.6	4.2	3.2	6.0
Lead & Mulberry	9.9	6.9	20.3	2.5	2.2	3.0
Lead & Edith	11.3	7.8	24.0	2.2	1.5	4.8
Coal & Cornell	16.0	10.6	42.4	4.1	2.7	12.0
Coal & Amherst	14.2	9.8	45.8	3.3	2.0	na



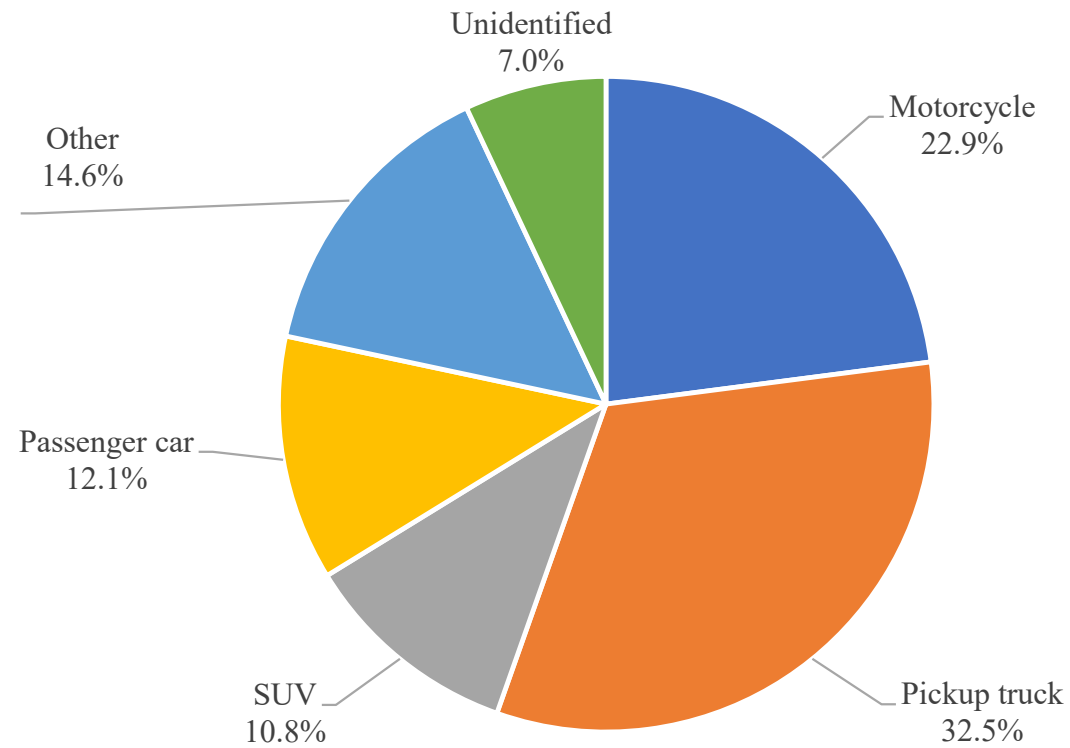
Noise Sources for Noise Camera Triggers



171 triggers of ≥ 80 dB(A) over 50.5 hours of monitoring



Types of Motor Vehicles Triggering the Noise Camera



Progress and Next Steps



Progress

- Link Analysis and O/D Analysis from MRCOG has been received
- Traffic Diversion Assessment
- Segmented Analysis
- Cost Estimates

Next Steps

- Public Meeting #3
 - December 18, 2024
- Final Noise Assessment Report
- Draft Report

Questions?



Survey Form

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