

# Pedestrian and Bicycle Level of Traffic Stress

November 13, 2024  
3:00pm Eastern / 12:00pm Pacific

Hosted by:



# Outline

1. CPBS (1 min.)
2. BLTS (14 min.)
3. PLTS (35 min.)
4. Q&A (10 min.)



# Center for Pedestrian and Bicyclist Safety



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# Bicycle Level of Traffic Stress (BLTS)

## Original Segments

Maaza Mekuria  
Peter Furth  
Hilary Nixon

2012

Mineta Transportation Institute

## Current Project Intersections



Peter Furth



Nick Ferenchak



Chris Cherry



Wes Marshall

# BLTS for Segments

## Bikes in mixed traffic

Number of lanes	ADT	Prevailing Speed (mph)						
		0 - 23.5	23.5-28.5	28.5-33.5	33.5-38.5	38.5-43.5	43.5-48.5	48.5+
Unlaned 2-way street (no centerline)	0-750	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
	751-1500	LTS 1	LTS 1	LTS 2	LTS 3	LTS 3	LTS 3	LTS 3
	1501-3000	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4
	3001+	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
2-way with 1 lane per direction and centerline, or wide* 1-way, 1-lane	0-1000	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
	1001-1500	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4
	1501+	LTS 2	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
Narrow* one-way, 1-lane	0-600	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
	601-1000	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4
	1001+	LTS 2	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
2 thru lanes per direction	0-8000	LTS 3	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
	8001+	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
3+ thru lanes per direction	any ADT	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4

# LEVEL OF TRAFFIC STRESS



INCREASING LEVEL OF COMFORT, SAFETY, AND INTEREST IN BICYCLING FOR TRANSPORTATION

## LTS 4

No bike lane on a busy street



## LTS 3

Narrow bike lane or shoulder on a busy street



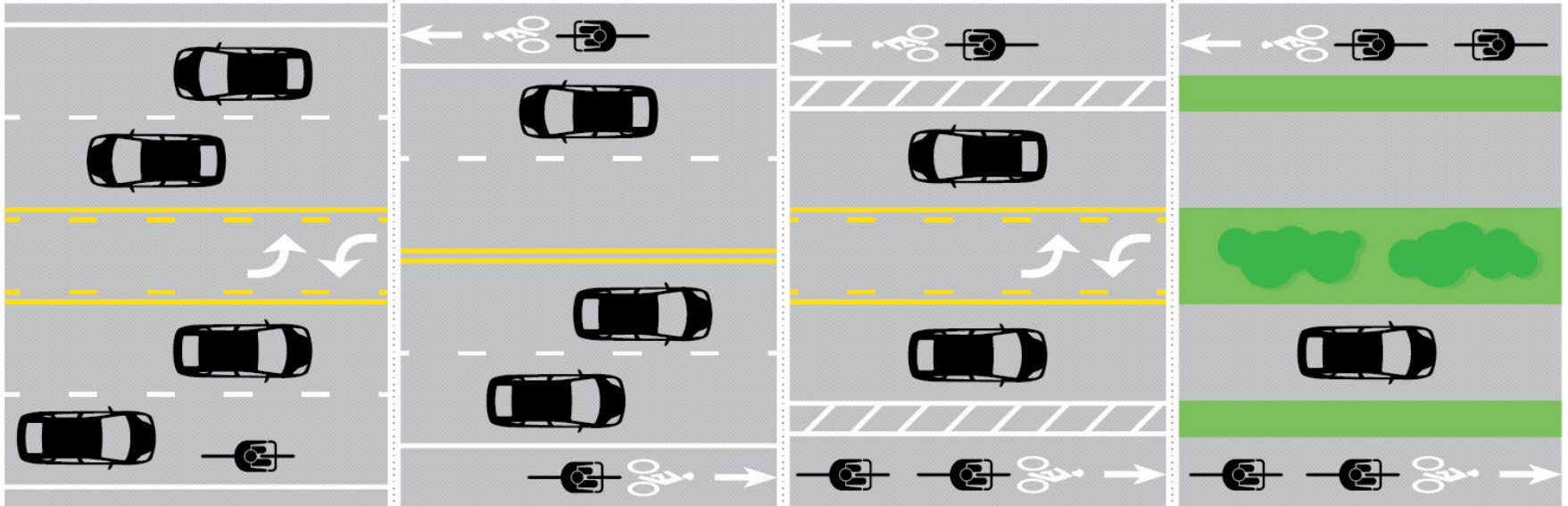
## LTS 2

Buffered bike lane on a calm street



## LTS 1

Separated bike lane



**LTS 3/4**

**LTS 1**



This is a:  
**Critical Crossing**





LTS  
2



LTS  
3/4



# Intersection Analysis

Left-Turn  
Conflicts

Right-Turn  
Conflicts

Detection



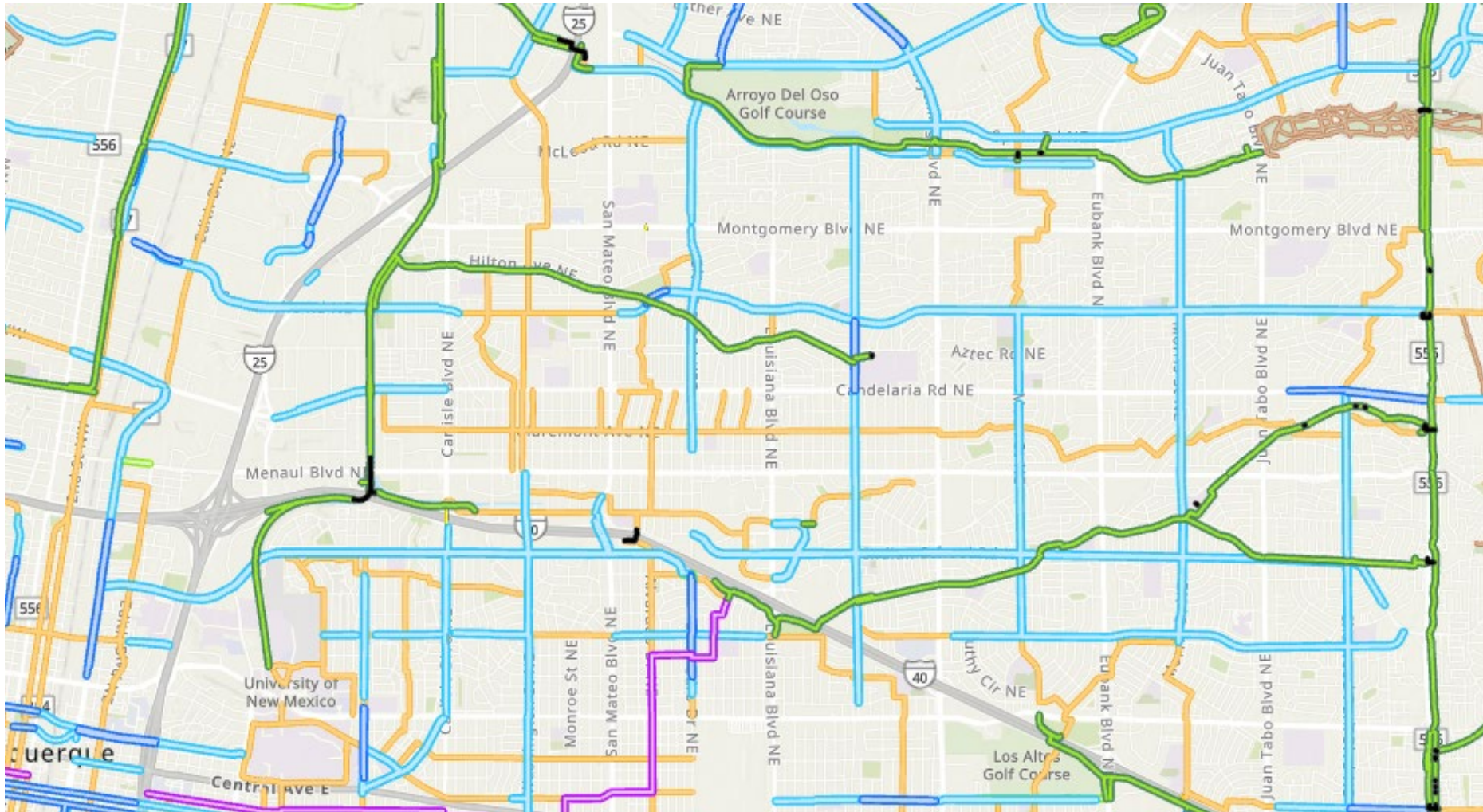
Vehicle  
Volumes & Speeds

Refuge

Bike Lane  
Configuration

# Network Analysis Process

Start with all your roads and trails.  
Identify your intersections.





# Trail/Trail

LTS 1

## Trail/Road

Concerned with Gaps:

- Traffic control
  - Refuge
- Number of lanes
- Vehicle volume/speed



# Road/Road

## Unsignalized Gap

- # of lanes
- Vehicle vol.



## Signalized ROW

### Turn Conflicts

- Bike lane
- # of lanes
- Vehicle vol.



# Input for Validation



Results in Summer 2025

Thank You!