

Texas Department of Transportation
Bicycle Advisory Committee (BAC) Meeting
October 21, 2016 - 10:00 AM
200 East Riverside Drive, Bldg. 200, Conference Room E (RA200E)
Austin, Texas 78704
Teleconference Available for BAC Members

Agenda

1. Call to Order.
2. Safety briefing.
3. Approval of minutes from July 29, 2016, BAC meeting. (Action)
4. Report from BAC Chair.
5. Report from TxDOT's Public Transportation Division Director regarding statewide bicycle and pedestrian matters.
6. Presentation on the City of El Paso Bike Plan.
7. Presentation from Texas Transportation Institute on TxDOT research project 0-6927, *Evaluation of Bicycle and Pedestrian Monitoring Equipment to Establish Collection Database and Methodologies for Estimating Non-Motorized Transportation.*
8. Update from committee members on local and statewide issues.
9. Public comment – public comments will only be accepted in person.
10. Discussion of agenda items for future BAC meetings. (Action)
11. Adjourn. (Action)

I certify that I have reviewed this document and that it conforms to all applicable Texas Register filing requirements.

CERTIFYING OFFICIAL: Joanne Wright, Deputy General Counsel, (512) 463-8630.

AGENDA ITEM 3

MINUTES FOR ADOPTION

Bicycle Advisory Committee – Teleconference Meeting
125 E. 11th Street, Austin TX, Delegation Room
July 29, 2016

BAC Committee Members Present and Participating:

Billy Hibbs, Chair
Russ Frank, Vice Chair
Robert Gonzales
David Steiner
Allison Kaplan
Shawn Twing
Ramiro Gonzalez
Karla Weaver
Anne-Marie Williamson
Joseph Pitchford
Allison Blazosky

TxDOT Present and Participating:

Jeff Austin III, Commissioner, Texas Transportation Commission
Eric Gleason, Director, Public Transportation Division (PTN)
Teri Kaplan, Statewide Bicycle / Pedestrian Coordinator (PTN)
Josh Ribakove, Communications Manager (PTN)

FHWA Present and Participating:

Genevieve Bales
Donny Hamilton, Jr.

Also Present and Participating:

Stephanie Lind, CH2M Hill
Robin Stallings, BikeTexas
Beth Nobles, BikeTexas
Mark Stein, BikeTexas

AGENDA ITEM 1: Call to Order.

Billy Hibbs began the proceedings at 10:00 A.M.

AGENDA ITEM 2: Safety Briefing.

Josh Ribakove provided a safety briefing at 10:01 A.M.

AGENDA ITEM 3: Approval of Minutes from April 29, 2016 Meeting (Action).

Billy Hibbs introduced this item at 10:04 A.M.

MOTION David Steiner moved to approve the April 29, 2016, meeting minutes.

SECOND Robert Gonzales seconded the motion.

The motion passed unanimously at 10:04 A.M.

AGENDA ITEM 5 (taken out of order): Report from TxDOT's Public Transportation Division Director regarding statewide bicycle and pedestrian matters.

Eric Gleason opened this item at 10:04 A.M. He introduced Texas Transportation Commissioner Jeff Austin III, who spoke about the role of advisory committees; funding and the UTP; TxDOT's LAR; TxDOT's FTE count; and TxDOT's *Don't Mess with Texas* campaign. Commissioner Austin also mentioned that in addition to TxDOT, the Parks & Wildlife Department has a funding source that can be used for bicycle/pedestrian projects.

At 10:18 Eric Gleason recognized committee members whose terms would expire before the next meeting. Next he recognized CH2M Hill consultant Stephanie Lind and spoke about her accomplishments during her time at TxDOT. Other topics included the committee's Strategic Direction Report; BikeStripe; the establishment of an internal TxDOT bicycle/pedestrian program workgroup; TxDOT's forthcoming bike/ped updates to its website; FHWA deadlines for TAP projects; and data collection re: bike use.

AGENDA ITEM 4 (taken out of order): Report from BAC Chair.

Billy Hibbs delivered his report beginning at 10:28 A.M. Topics included BikeTexas and the committee's bike jerseys.

AGENDA ITEM 6: Presentation from North Central Texas Council of Governments on Regional Active Transportation Planning in North Texas.

Karla Weaver began this presentation at 10:32 A.M.

Questions/Comments: Commissioner Austin, Eric Gleason, Russ Frank, Ramiro Gonzalez, Joseph Pitchford, Billy Hibbs, and Robin Stallings (BikeTexas).

Billy Hibbs asked Robert Gonzales to give a presentation on the El Paso Bike Plan at the next BAC meeting.

AGENDA ITEM 7: Presentation from BikeTexas on developing connections to the U.S. Bike Route System in Texas (N/S and E/W).

Billy Hibbs introduced Beth Nobles from BikeTexas, who began this presentation at 10:58 A.M. She started with a video "How Bicycles Can Fix Small Town America" and then continued with her presentation.

Questions/Comments: Commissioner Austin, Eric Gleason, Teri Kaplan, Billy Hibbs, Karla Weaver, Joseph Pitchford, Russ Frank, David Steiner, Ramiro Gonzalez, Genevieve Bales (FHWA), Donny Hamilton, Jr. (FHWA), Robin Stallings, Mark Stein (BikeTexas).

AGENDA ITEM 8: Discussion on planning a bike ride for BAC members in October 2016. (Action)

Billy Hibbs began this presentation at 12:01 P.M.

Questions/Comments: Eric Gleason, Teri Kaplan, Anne-Marie Williamson, David Steiner, Karla Weaver, Shawn Twing, Robin Stallings.

No action taken.

AGENDA ITEM 9: Update from committee members on local and statewide issues.

Billy Hibbs introduced this item at 12:08 A.M.

Contributions from Romero Gonzalez, Shawn Twing, Allison Kaplan, David Steiner, Robert Gonzales, Russ Frank, Karla Weaver, Anne-Marie Williamson, Joseph Pitchford, and Allison Blazosky.

Questions/comments: Commissioner Austin, Eric Gleason, Billy Hibbs, Teri Kaplan, Robin Stallings.

AGENDA ITEM 10: Public Comment.

Robin Stallings of BikeTexas spoke at 12:35.

Comments and discussion: Commissioner Austin, Eric Gleason

AGENDA ITEM 11: Discussion of BAC 2016 meeting schedule and agenda items for future BAC meetings; confirm date of next BAC meeting (Action).

This item was skipped.

AGENDA ITEM 12: Adjourn (Action).

Billy Hibbs opened this item at 12:40 P.M.

MOTION Ann-Marie Williamson moved to adjourn the meeting.

SECOND David Steiner seconded the motion.

The motion passed at 12:42 P.M. Meeting adjourned.

Prepared by:

Approved by:

Teri Kaplan
Public Transportation Division

Billy Hibbs
Chair, Bicycle Advisory Committee

AGENDA ITEM 6



CITY OF EL PASO
BIKE PLAN
August 2016



Agenda

- Vision
- Process
- Assessment
- Recommended Network
- Implementation

KEY INPUTS FOR PLAN DEVELOPMENT

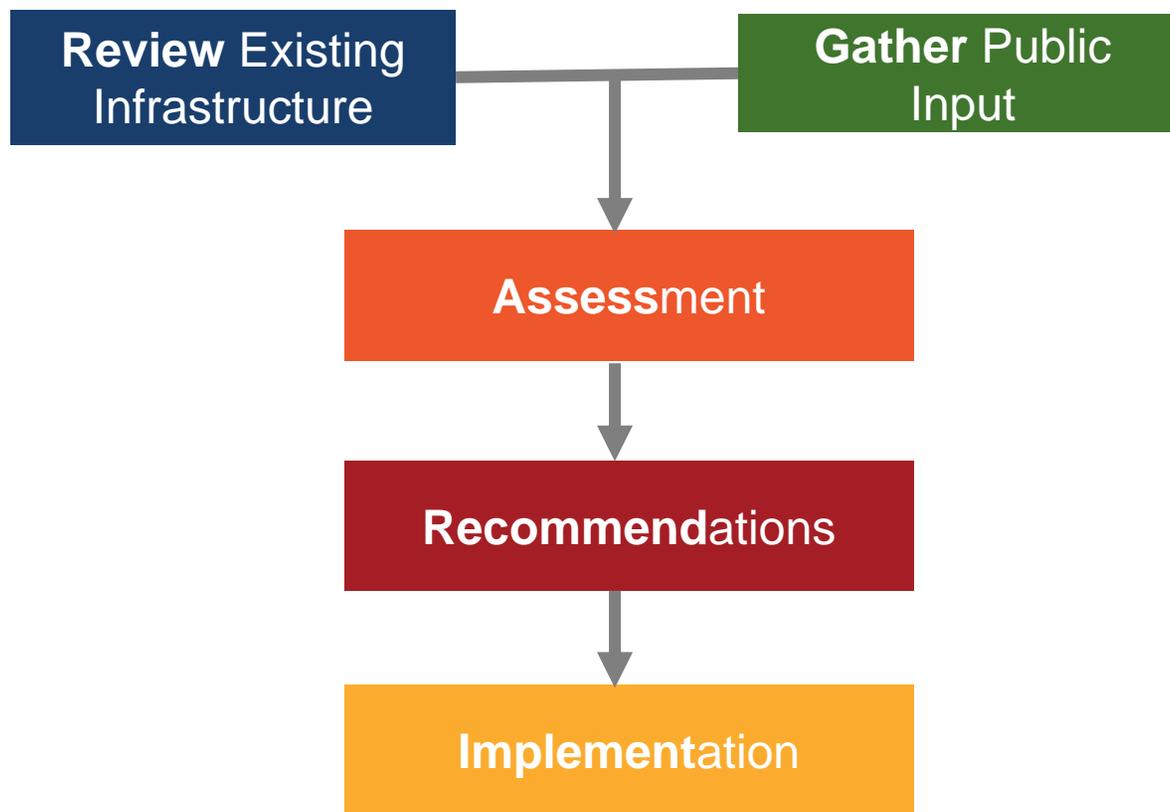


Bike Plan Vision Statement

El Paso will be one of the most bicycle-friendly cities in the country by implementing and evaluating its goals, promoting bicycling as a viable, safe, everyday activity.



Timeline and Process



- Project Kick-Off
October 2015 ✓
- Public Workshop #1
December 2015 ✓
- Draft Bike Network
Winter 2015 - 2016 ✓
- Neighborhood Meetings
at Police Substations
January/February 2016 ✓
- Public Workshop #2
March 2016 ✓
- Final Draft Plan
May 2016 ✓
- City Approvals
July/August 2016



Existing Infrastructure in El Paso



Facility Type **Miles**

Signed/Marked Bicycle Routes **11.5**

Wide Shoulders **28.5**

Bike Lanes **62.0**

Buffered Bike Lanes **7.0**

Shared-Use Paths (including Sidepaths) **30.6**

Total **140**



Existing Bikeway Network

EXISTING BIKEWAYS

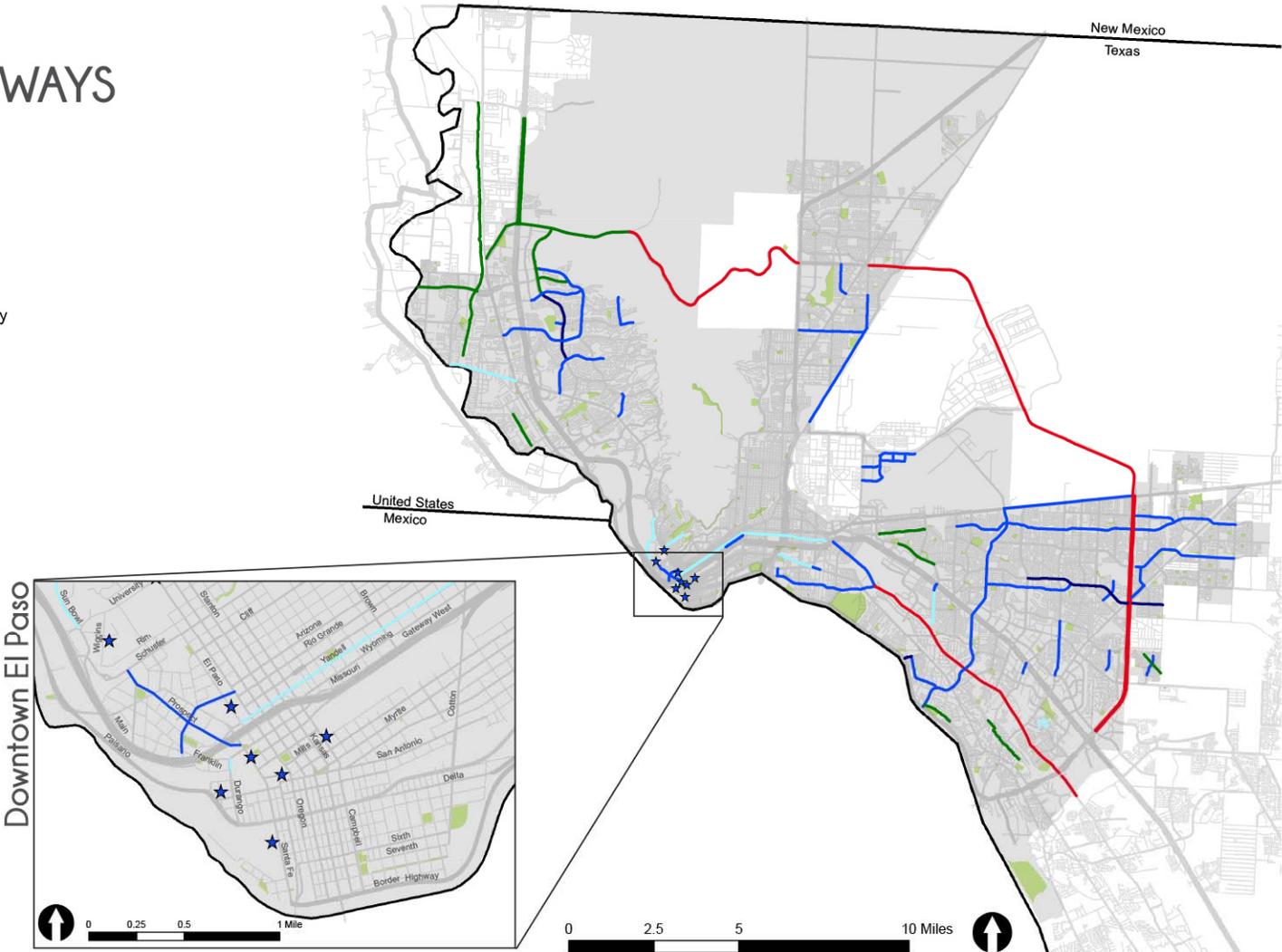
Legend

Existing Bicycle Facilities

- Shared Lane Markings
- Wide Shoulder / Shoulder Bikeway
- Bike Lane
- Buffered Bike Lane
- Shared Use Path

Other Features

- SunCycle Bike Share Station
- Parks
- City of El Paso



As of July 2016

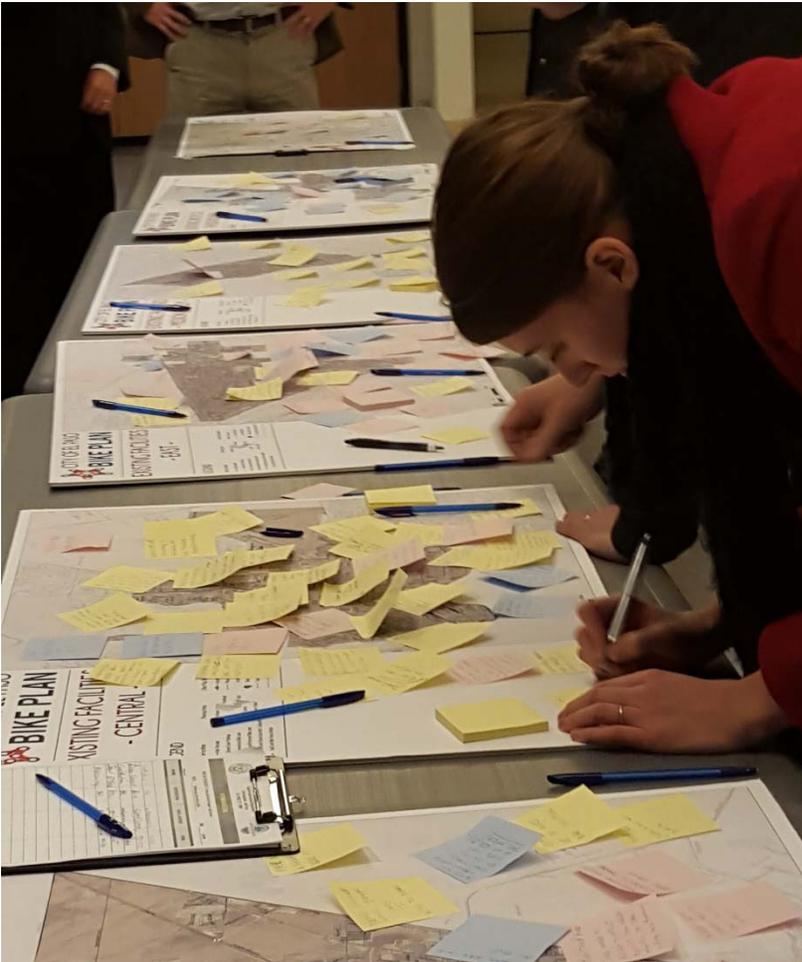
How Did We Gather Information?



- Bicycle Advisory Committee
- Chalk the Block Event Kickoff
- Community Open Houses
- Regional Community Meetings
- City Department Comments



What Do the Public and Stakeholders Want?



- Connectivity between points of interest and residential and commercial areas
- Safety of existing infrastructure
- Maintenance of existing infrastructure
- Additional off-road infrastructure, including use of canals or utility infrastructure
- Lack of end-of-trip facilities such as bike parking
- More education and encouragement, including law enforcement
- Improvements to aesthetics, such as landscape or public art

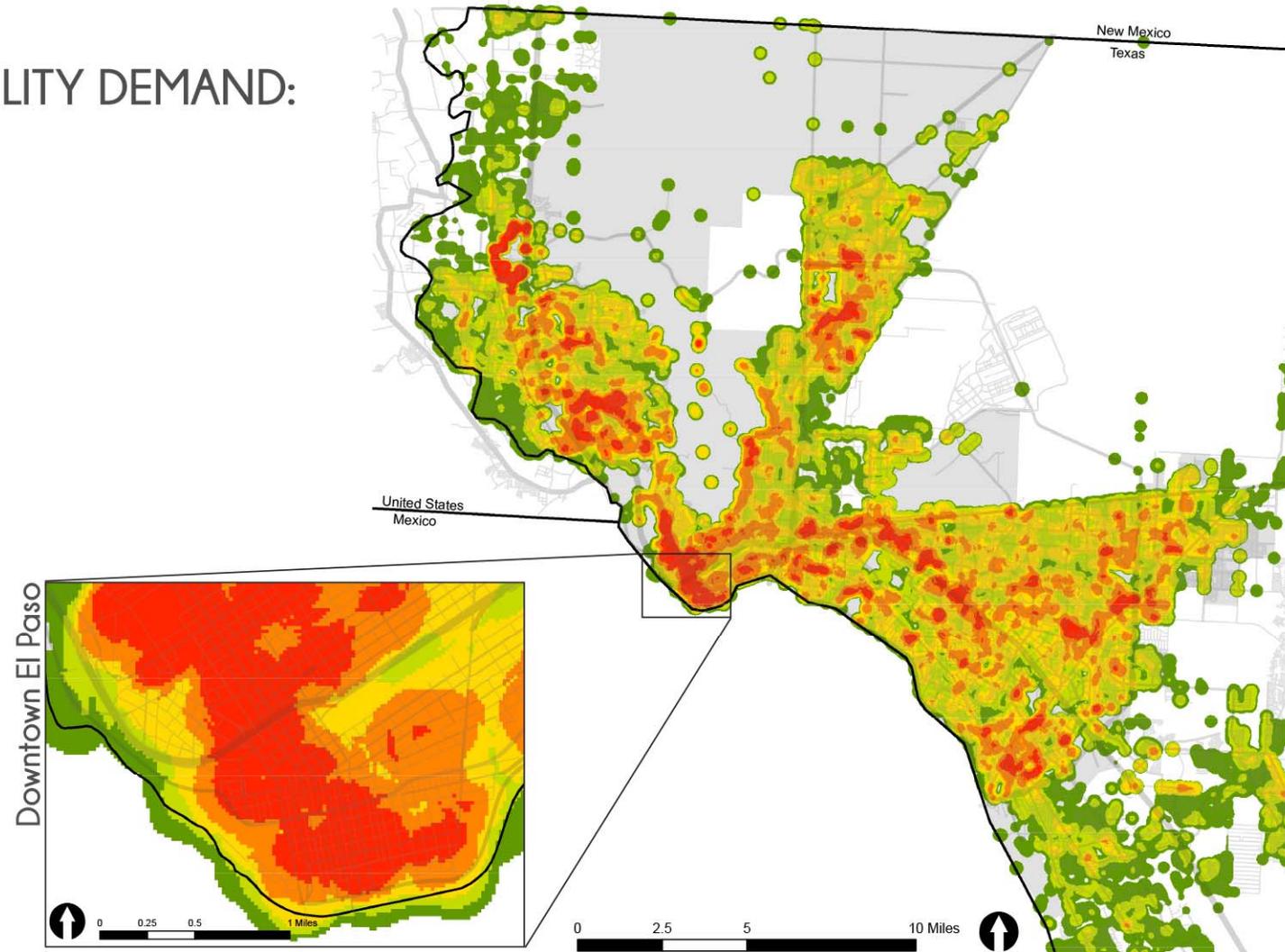
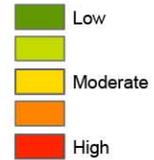


Analysis - Demand for Biking

BICYCLE FACILITY DEMAND: COMPOSITE

Legend

Composite Demand



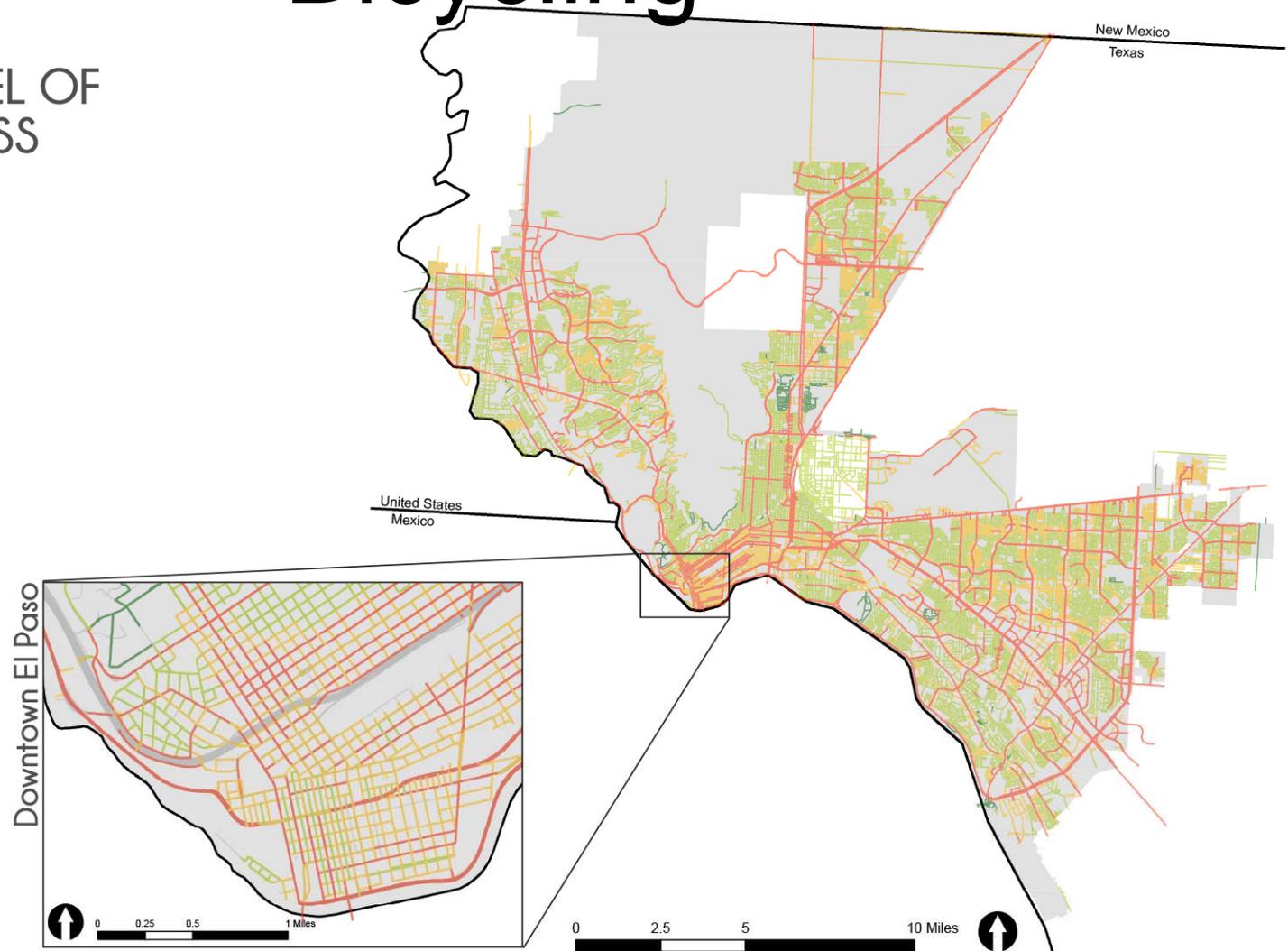
Analysis - Traffic Stress for Bicycling

BICYCLE LEVEL OF TRAFFIC STRESS

Legend

Bicycle Level of Travel Stress

- BLTS 1 (Lowest)
- BLTS 2
- BLTS 3
- BLTS 4 (Highest)



Recommended Network

RECOMMENDED BIKEWAY NETWORK

Legend

Existing Bicycle Facilities

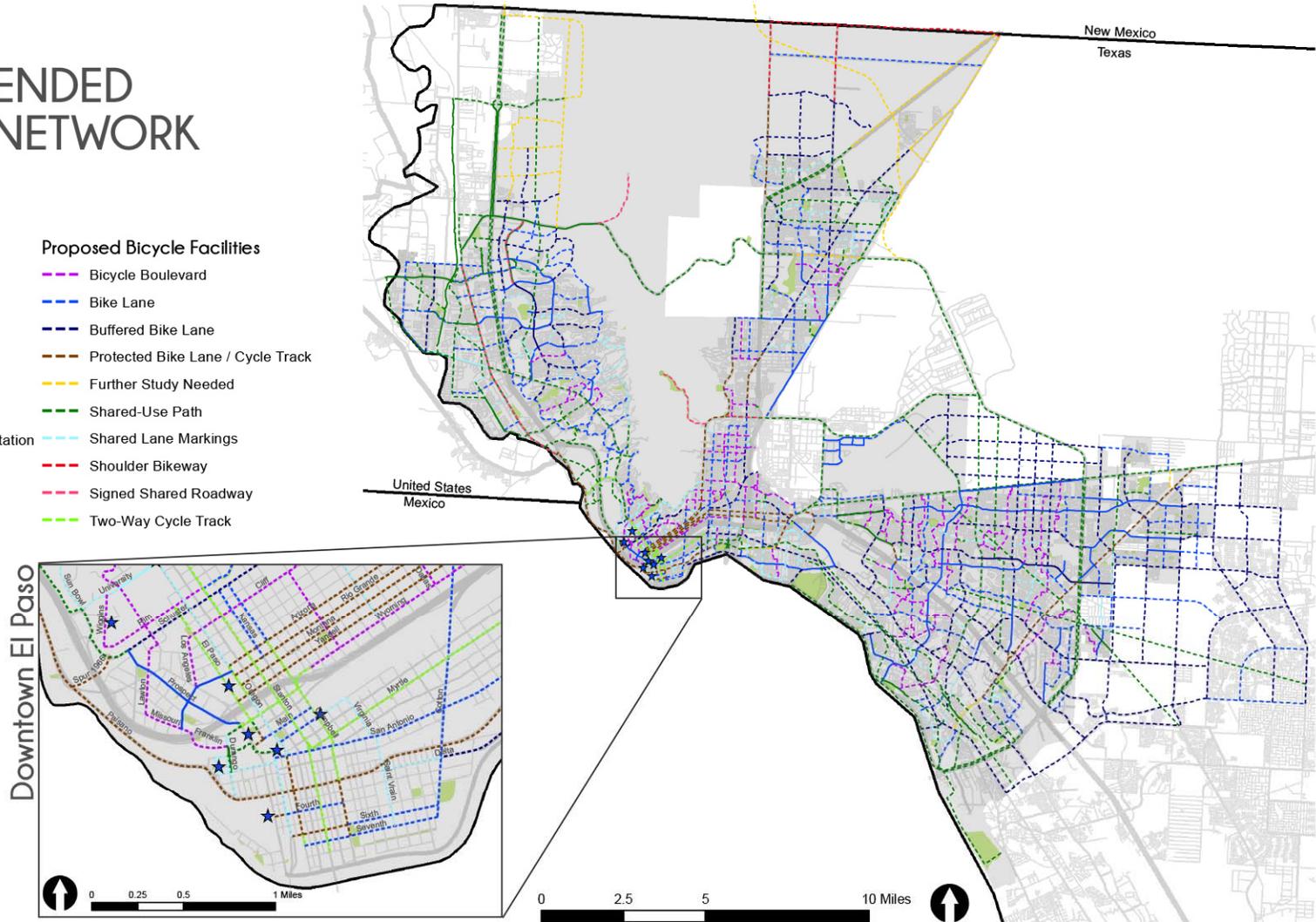
- Bike Lane
- Buffered Bike Lane
- Shared-Use Path
- Shared Lane Markings
- Shoulder Bikeway

Other Features

- ★ SunCycle Bike Share Station
- Parks
- City of El Paso

Proposed Bicycle Facilities

- - - Bicycle Boulevard
- - - Bike Lane
- - - Buffered Bike Lane
- - - Protected Bike Lane / Cycle Track
- - - Further Study Needed
- - - Shared-Use Path
- - - Shared Lane Markings
- - - Shoulder Bikeway
- - - Signed Shared Roadway
- - - Two-Way Cycle Track



Recommended Network

Bicycle Facility Type	Existing Miles	Recommended Miles	Total Future Miles
Shared-Use Path	31	271	304
Two-Way Cycle Track		8	8
Protected Bike Lane / Cycle Track		44	44
Buffered Bike Lane	7	157	157
Bike Lane	62	222	284
Shoulder Bikeway	29	12	40
Bicycle Boulevard		84	84
Shared Lane Markings	11	67	71
Signed Shared Roadway		14	14
Further Study Needed		60	60
Total Network Miles	140	938	1066



Recommended Facility Types



Signed and Marked Shared Roadway



Bicycle Boulevard



Recommended Facility Types



Shoulder Bikeway



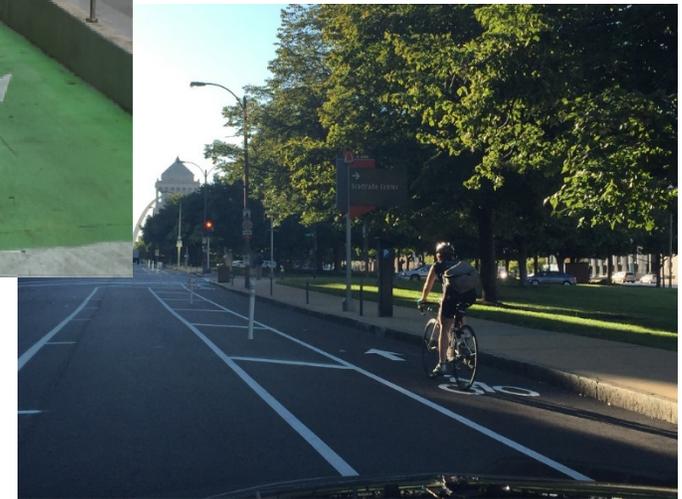
Bike Lane



Recommended Facility Types



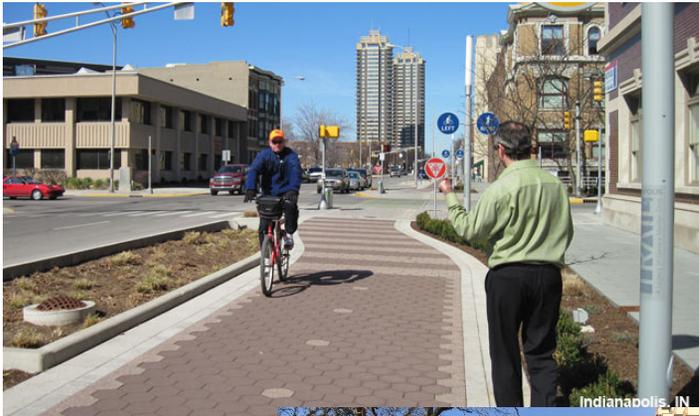
Buffered Bike Lane



Protected Bike Lane



Recommended Facility Types



Two-Way Cycle Track



Shared-Use Path



Recommended Treatments



Protected Intersections



Traffic Calming



End of Trip Facilities



Bike Parking



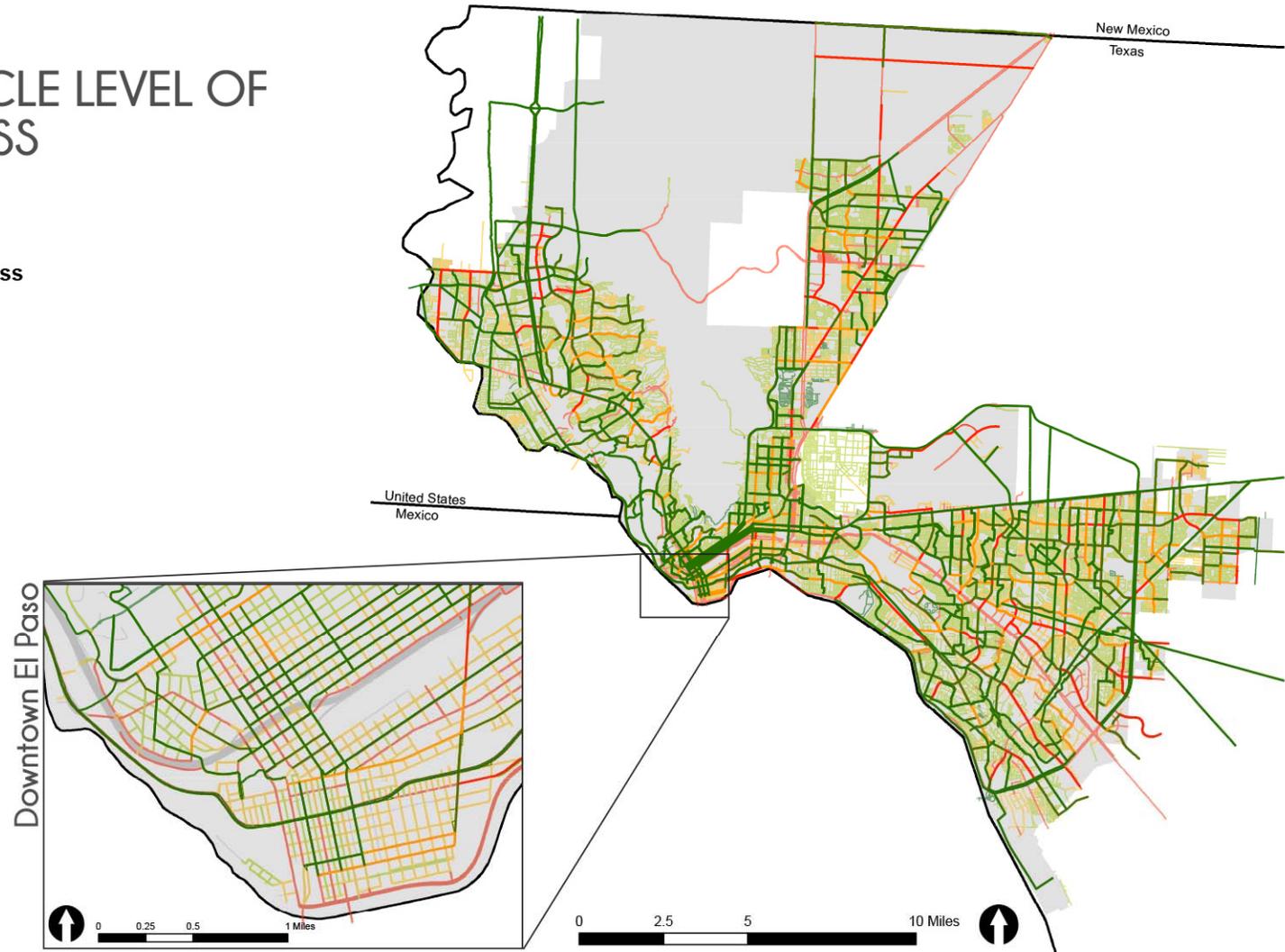
Recommended Network Results

FUTURE BICYCLE LEVEL OF TRAFFIC STRESS

Legend

Bicycle Level of Travel Stress

- BLTS 1 (Lowest)
- BLTS 2
- BLTS 3
- BLTS 4 (Highest)



Program Recommendations



- Infrastructure
 - Bicycle Parking
 - Expansion of Bike Share
 - End-of-trip facilities
- Programs
 - Bicycle and Pedestrian Coordinator
 - Encouragement programs
 - Education programs
- Policies
 - Evaluation and Reporting
 - Data collection and Tracking
 - Department Interaction



Prioritization Guidance

- Capturing high demand
- Providing low-stress bikeways
- Linking and expanding the network
- Enhancing the bike share system
- Eliminating barriers
- Weighing construction/maintenance costs
- Addressing first mile/last mile need
- Increasing regional connectivity



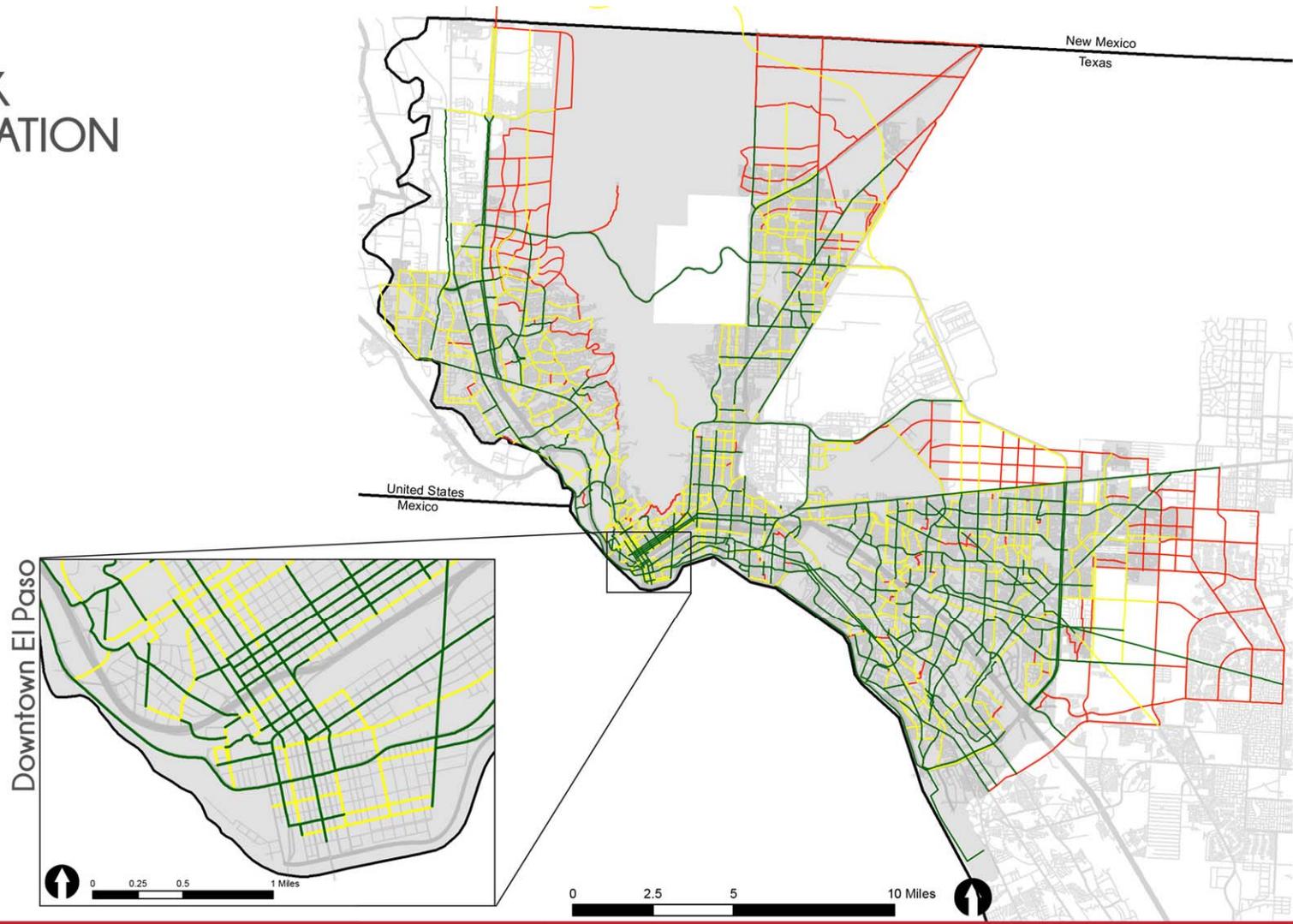
Prioritization

NETWORK PRIORITIZATION

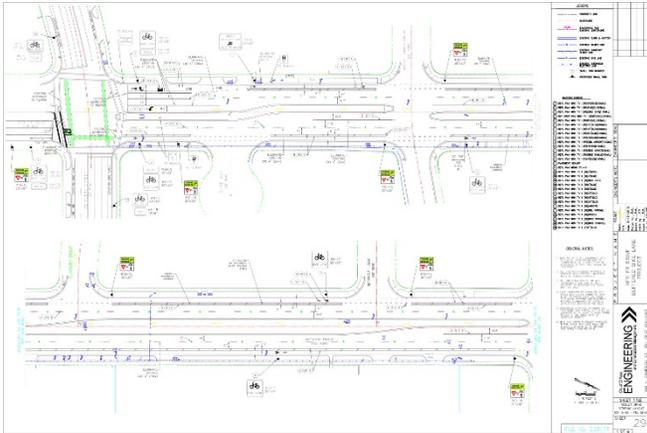
Legend

Prioritization Ranking

- Low Priority
- Medium Priority
- High Priority



Implementation



- Add to bike network incrementally but strategically
- Coordinate among departments and across levels of government
- Integrate improved infrastructure with education and encouragement programs and policies





CITY OF EL PASO
BIKE PLAN
August 2016



AGENDA ITEM 7

Pedestrian and Bicyclist Count Data

also known as

“Evaluation of Bicycle and Pedestrian Monitoring Equipment to Establish Collection Database and Methodologies for Estimating Non-Motorized Transportation”

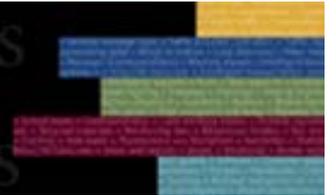
Shawn Turner, P.E.
Texas A&M Transportation Institute (TTI)

TxDOT Project Kickoff Meeting -- September 29, 2016 -- Austin, TX



Problem Statement

- TxDOT has very limited data on pedestrian and bicyclist use of transportation system
 - Useful in safety, planning, design, operations

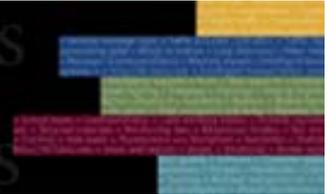


Project Objectives

- Recommend statewide monitoring process for pedestrians and bicyclists
 - Evaluate equipment, approaches, process in 2 TxDOT Districts
 - Compile pre-existing and project-collected data into consolidated database

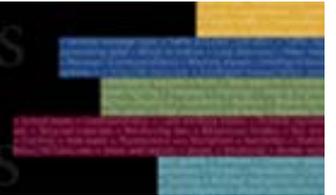
Project Schedule

Task #	FY 2017												FY 2018				
	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
Task 1. Project Management and Research Coordination																	
Task 2. Identify and Document Existing Data and Processes	3 months																
Task 3. Develop Pilot Test Approach for Two Locations				3 months													
Task 4. Conduct and Evaluate Pilot Test Approaches and Processes							6 months										
Task 5. Develop Consolidated Database to Accept TxDOT, MPO and Local Agency Data										6 months							



Task 1. Project Management and Research Coordination

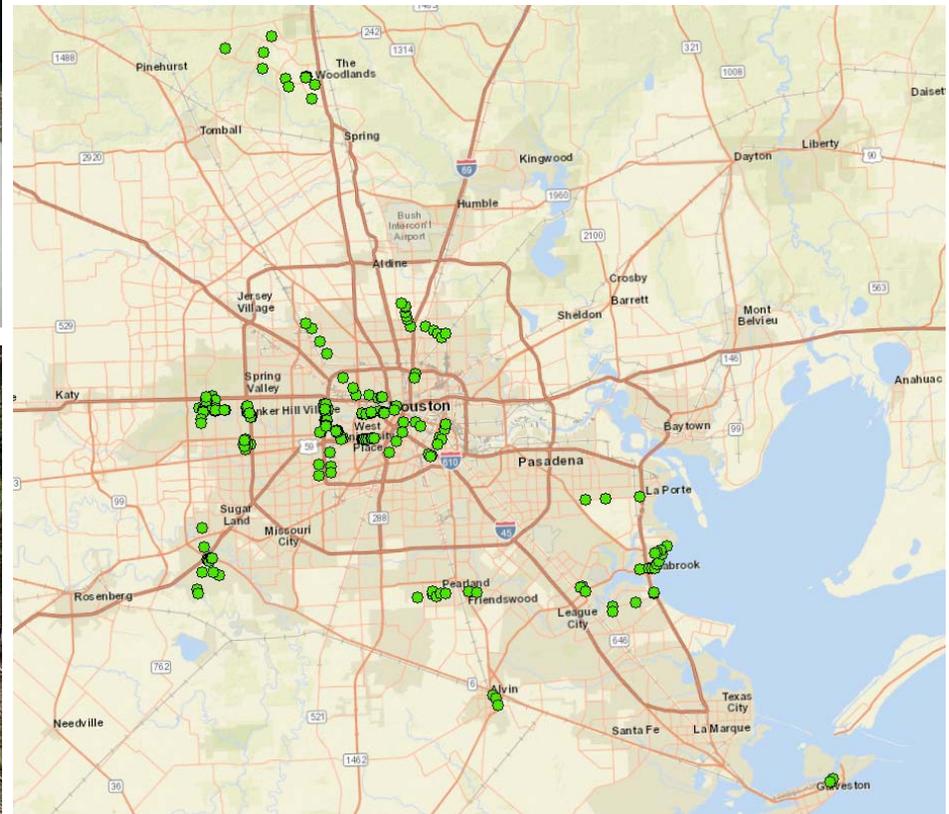
- Value of Research deliverable
- Monthly Progress Reports
- Yearly Budget Forecast
- Research Report (end of project)
- Project Summary Report (end of project)



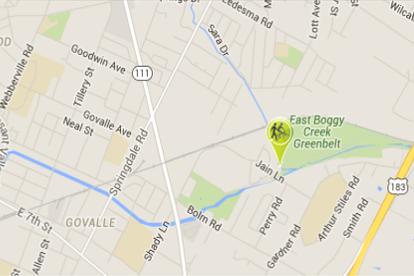
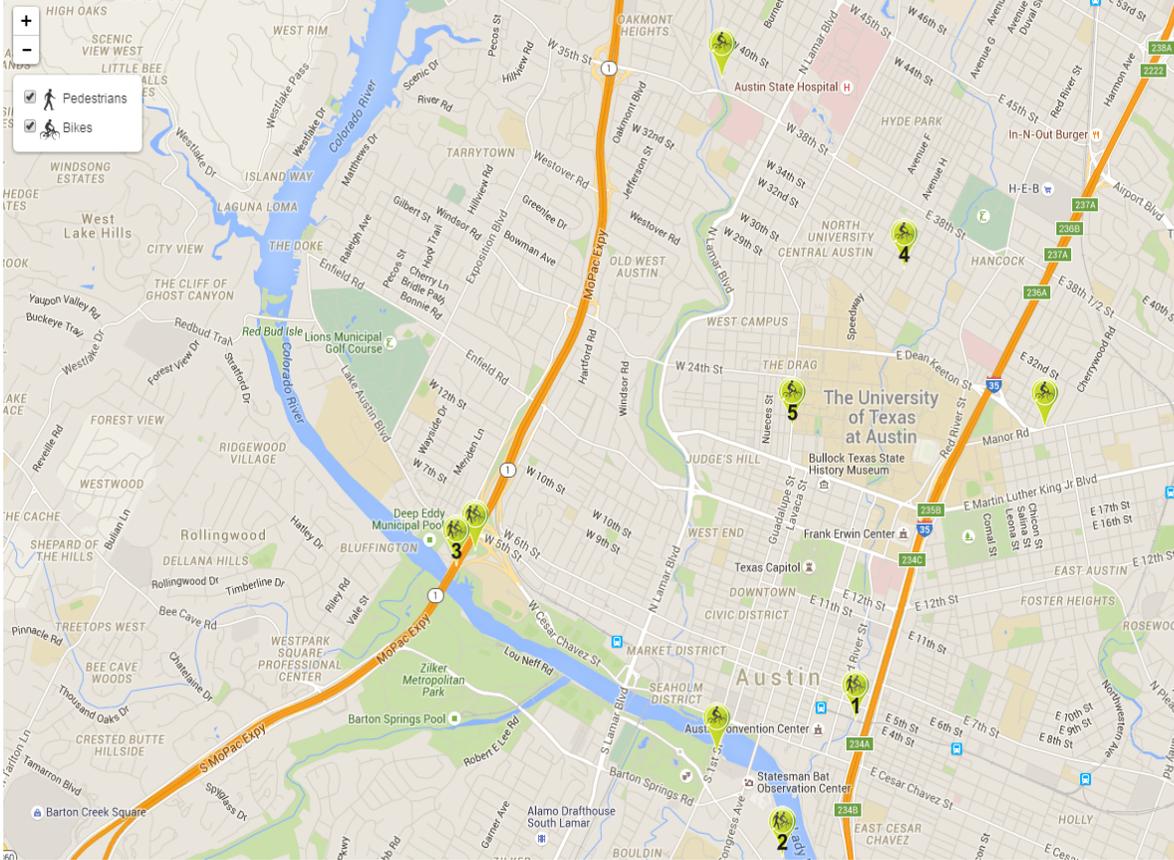
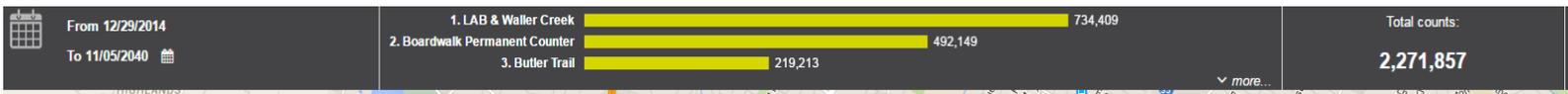
Task 2. Identify and Document Existing Data and Processes

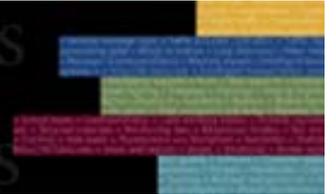
- Pedestrian and bicyclist count data in Texas
- TxDOT, MPOs, and local agencies
- Best practices from FHWA and other state DOTs
 - Colorado
 - Minnesota
 - Oregon
 - Washington State
- Discuss project with TPP (implementation)

Task 2. Houston Examples



Task 2. Austin Examples





Task 3. Develop Pilot Test Approach for 2 TxDOT Districts

- District and location selection
- On-system vs. off-system facilities
- Types of equipment to use
- Permanent vs. portable equipment
- Comparing/validating crowdsourced data

Task 3. Develop Pilot Test Approach

Federal Highway Administration Traffic Monitoring Guide

Traffic Monitoring Guide

September 2013



U.S. Department of Transportation
Federal Highway Administration
Office of Highway Policy Information

NCHRP REPORT 797

NATIONAL
COOPERATIVE
HIGHWAY
RESEARCH
PROGRAM

Guidebook on Pedestrian and Bicycle Volume Data Collection

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

Task 3. Develop Pilot Test Approach

1. What Are You Counting?



	Technology	Bicyclists Only	Pedestrians Only	Pedestrians & Bicyclist Combined	Pedestrians & Bicyclist Separately	Cost
Permanent ↑ 2. How Long? ↓ Temporary/ Short Term	Inductance Loops ¹	●			◐	\$\$
	Magnetometer ²	○				\$-\$\$
	Pressure Sensor ²	○	○	○	○	\$\$
	Radar Sensor	○	○	○		\$-\$\$
	Seismic Sensor	○	○	○		\$\$
	Video Imaging: Automated	○	○	○	○	\$-\$\$
	Infrared Sensor (Active or Passive)	○ ³	●	●	◐	\$-\$\$
	Pneumatic Tubes	●			◐	\$-\$\$
	Video Imaging: Manual	○	○	○	●	\$-\$\$\$
	Manual Observers	●	●	●	●	\$\$-\$\$\$

○ Indicates what is technologically possible.

● Indicates a common practice.

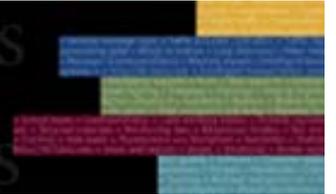
◐ Indicates a common practice, but must be combined with another technology to classify pedestrians and bicyclists separately.

\$, \$\$, \$\$\$: Indicates relative cost per data point.

¹ Typically requires a unique loop configuration separate from motor vehicle loops, especially in a traffic lane shared by bicyclists and motor vehicles.

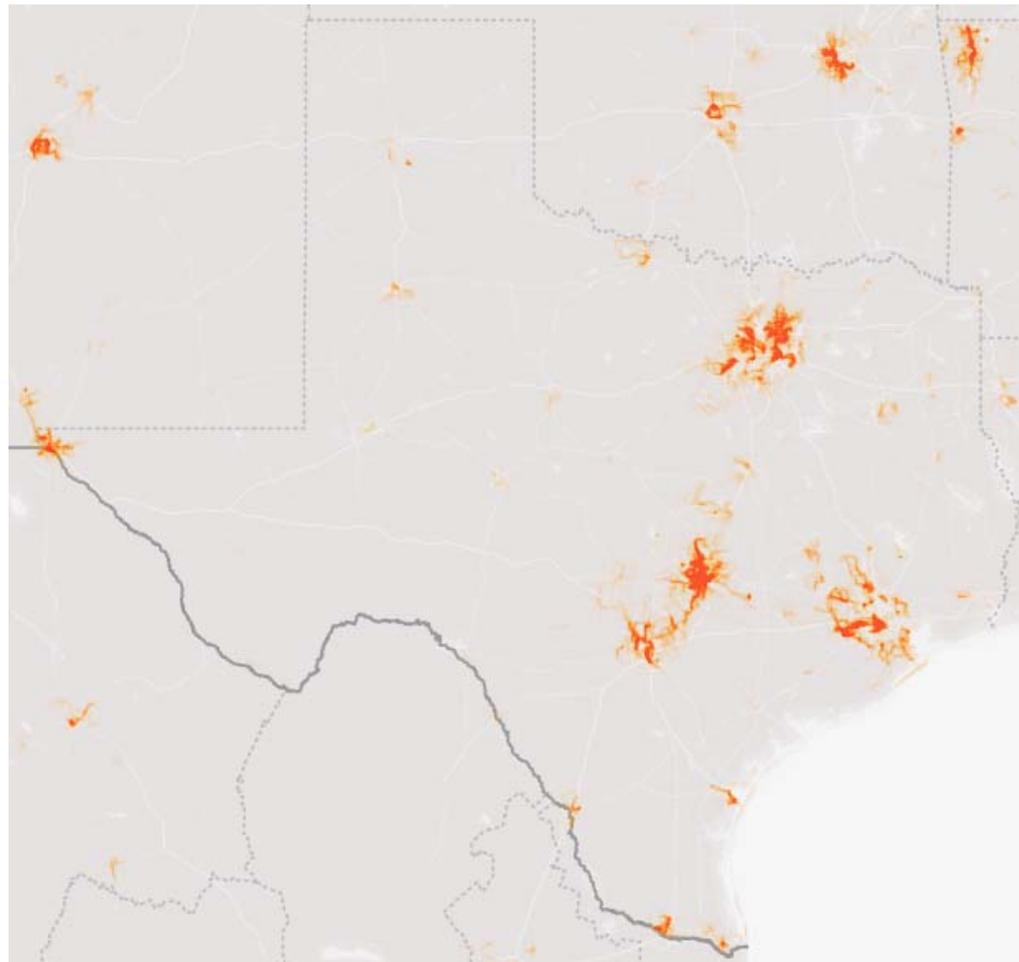
² Permanent installation is typical for asphalt or concrete pavements; temporary installation is possible for unpaved, natural surface trails.

³ Requires specific mounting configuration to avoid counting cars in main traffic lanes or counting pedestrians on the sidewalk.



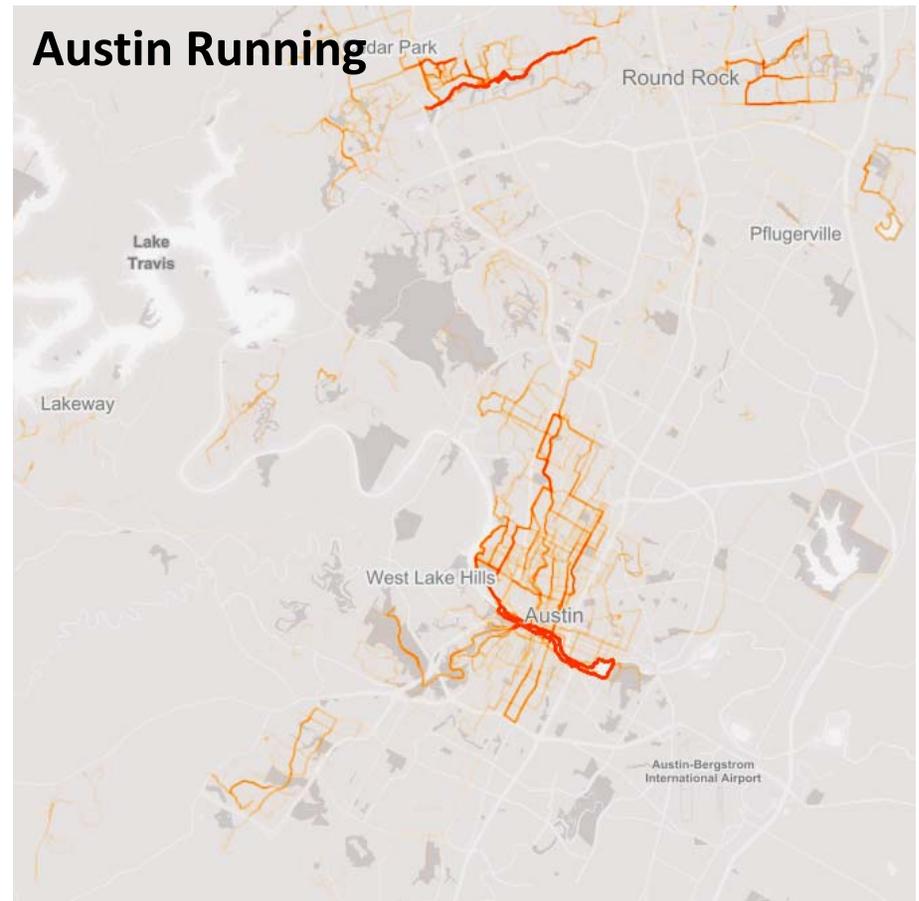
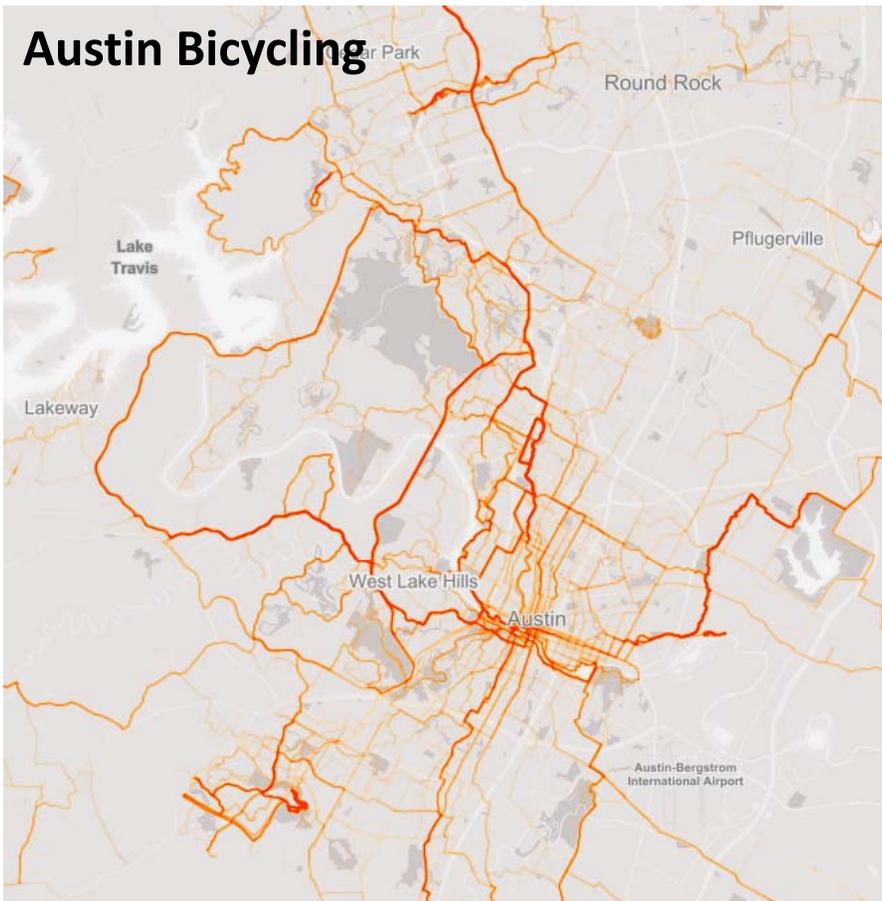
Task 3. Develop Pilot Test Approach

**Strava
Crowdsource
Data**



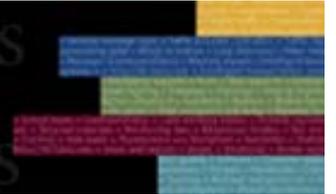


Task 3. Develop Pilot Test Approach



Task 3. Develop Pilot Test Approach





Task 4. Conduct and Evaluate Pilot Test Approaches and Processes

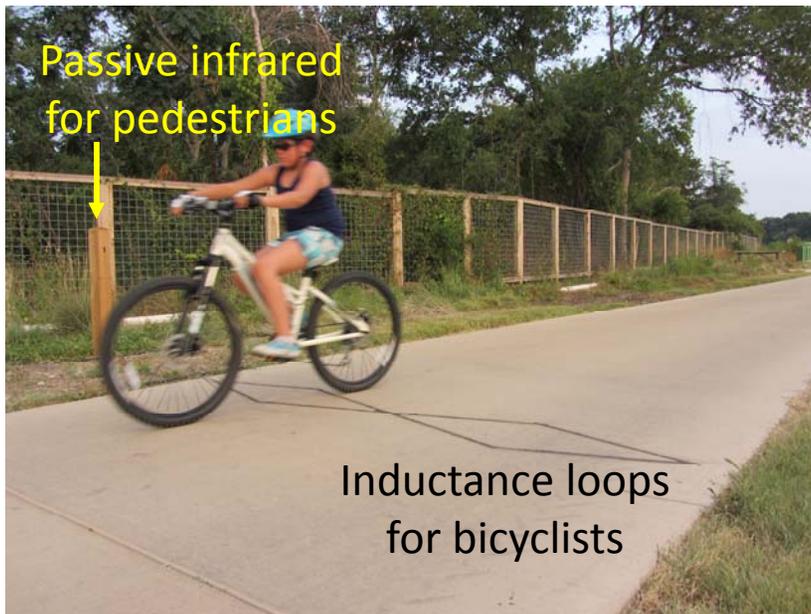
- Combination of permanent and short-duration count sites
- Installation and calibration of equipment
- Comparison of direct counts and crowdsource data

Task 4. Conduct Pilot Test

Permanent Continuous Counters

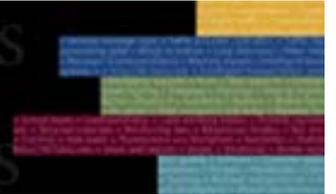
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Portable Short-Duration Counters



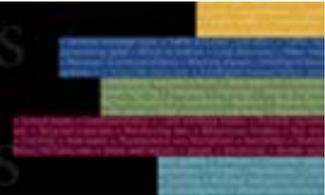
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Task 5. Develop Consolidated Database

- Database template, then populated database
- Will need to translate various vendor formats
- Likely built around FHWA Traffic Monitoring Guide format
- Ensure compatibility with TPP data submittal standards



Task 5. Develop Consolidated Database

Transportation Development Division - TS																
Site Number:	26200	Site Name:	I-205 Bike Path	Region:	1	Velocity:		Latitude:								
Street Number:	64	Mile Point:	20.35	Start Date:	1/1/2013	Latitude:		Longitude:								
ADT:	117	Avg Weekdays (Mon - Thu):	120	Avg Day:	118											
Max Hour:	24	Day:	Sat	Date:	1/19/2013											
Max Day:	156	Day:	Tue	Date:	1/8/2013											
Sunday		Monday		Tuesday		Wednesday		Thursday								
Date	Value	Date	Value	Date	Value	Date	Value	Date	Value							
1/6	89	1/7	103	1/8	156	1/9	110	1/10	119							
1/13	103	1/14	97	1/15	129	1/16	127	1/17	147							
1/20	105	1/21	138	1/22	136	1/23	80	1/24	130							
1/27	102	1/28	91	1/29	104	1/30	-	1/31	154							
Avg:	100	Avg:	107	Avg:	136	Avg:	108	Avg:	128							
Date	Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

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*****V8.0y S/N71128 (c) 2001-2007*****
TRAFx Research Ltd. www.trafx.net
Fx:F6E0R1M3T2T_c26f26L33LN4POA0E2_m064I2_d

Sets:N:H:001:035:E:060:000:F:Y:F:016:000:Y:000

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*Batt. voltage :4.2
*Stored records :02588

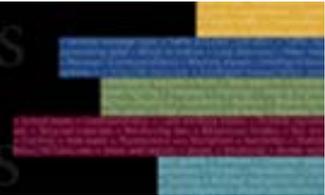
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DELAY (see manual) :035

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9		16TH Southbound				WYNKOOP Westbound				16TH Northbound					
10	Start Time	Left	Thru	Right	Bike	Left	Thru	Right	Bike	Left	Thru	Right	Bike		
11	04:30 PM	0	0	0	3	0	0	0	5	0	0	0	0		
12	04:45 PM	0	0	0	2	0	0	0	4	0	0	0	0		
13	05:00 PM	0	0	0	1	0	0	0	2	0	0	0	0		
14	05:15 PM	0	0	0	6	0	0	0	3	0	0	0	0		
15															

1/29	Tue	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
1/30	Wed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/31	Thu	1	1	1	2	1	1	6	10	8	9	4	4	10	7	3



Task 5. FHWA TMG Format

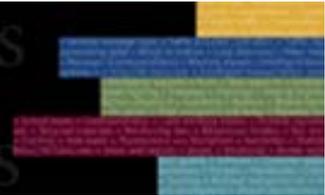
TABLE 7-31 NON-MOTORIZED COUNT STATION DESCRIPTION RECORD

Field	Columns	Width	Description	Type
1	1	1	Non-motorized station/location record identifier (L)	C
2	2-3	2	State FIPS Code	C
3	4-6	3	County FIPS Code	C
4	7-12	6	Station ID	C
5	13	1	(Functional) classification of road (expanded)	C
6	14	1	Direction of route	C
7	15	1	Location of count relative to roadway orientation	C
8	16	1	Direction of travel	C
9	17	1	Crosswalk, sidewalk, or exclusive facility	C
10	18	1	Intersection	O
11	19	1	Type of count (bike/pedestrian/both)	C
12	20-21	2	Method of counting	C
13	22-23	2	Type of Sensor	O
14	24-27	4	Year of data	C
15	28	1	Factor Group 1	O
16	29	1	Factor Group 2	O
17	30	1	Factor Group 3	O
18	31	1	Factor Group 4	O
19	32	1	Factor Group 5	O
20	33	1	Primary Count Purpose	O
21	34-35	2	Posted Speed Limit	O
22	36-39	4	Year station established	C
23	40-43	4	Year station discontinued	O
24	44	1	National highway system	O
25	45-52	8	Latitude	C
26	53-61	9	Longitude	C
27	62-63	2	Posted Route Signing	O
28	64-71	8	Posted Signed Route Number	O
29	72-131	60	LRS Identification	O
30	132-139	8	LRS Location Point	O
31	140-189	50	Station location	O
32	190-239	50	Other Notes	O

Note: C = Critical, O = Optional

TABLE 7-37 NON-MOTORIZED COUNT RECORD

Field	Columns	Width	Description	Type
1	1	1	Non-motorized count record identifier (N)	C
2	2-3	2	State FIPS Code	C
3	4-6	3	County FIPS Code	C
4	7-12	6	Station ID	C
5	13-20	8	Latitude	O
6	21-29	9	Longitude	O
7	30	1	Direction of route	C
8	31	1	Location of count relative to roadway orientation	C
9	32	1	Direction of travel	C
10	33	1	Crosswalk, sidewalk, or exclusive facility	C
11	34	1	Intersection	O
12	35	1	Type of count (e.g., bike/pedestrian/both)	C
13	36-37	2	Type of sensor	C
14	38	1	Precipitation (yes/no)	O
15	39-41	3	High temperature	O
16	42-44	3	Low temperature	O
17	45-48	4	Year of count	C
18	49-50	2	Month of count	C
19	51-52	2	Day of count	C
20	53-56	4	Count start time for this record (military time, HHMM)	C
21	57-59	3	Count interval being reported (in minutes) Allowable entries: 05, 10, 15, 20, 30, 60, or 120	C
22	60-64	5	Count for interval 1	C
23	65-69	5	Count for interval 2	C/O
24	70-74	5	Count for interval 3	C/O
25	75-79	5	Count for interval 4	C/O
26	80-84	5	Count for interval 5	C/O
27	85-89	5	Count for interval 6	C/O
28	90-94	5	Count for interval 7	C/O
29	95-99	5	Count for interval 8	C/O
30	100-104	5	Count for interval 9	C/O
31	105-109	5	Count for interval 10	C/O



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