

Texas Department of Transportation
TxDOT Bicycle and Pedestrian Advisory Committee (BPAC) Meeting
April 25, 2025 – 9:30 A.M.
6230 E. Stassney Lane, Auditorium
Austin, TX 78744

Agenda

1. Call to Order.
2. Safety briefing.
3. Approval of minutes from January 24, 2025 BPAC meeting. (Action)
4. Chair's Report.
5. Report from TxDOT's Public Transportation Division (PTN) Director regarding statewide bicycle and pedestrian matters.
6. Update and discussion on TxDOT's Statewide Active Transportation Plan.
7. Presentation on Pedestrian Detection Using Video Analytics.
8. Presentation on PROWAG and TxDOT's Roadway Design Manual updates.
9. Updates from committee members on local and statewide issues.
10. Public comment – Comments will be accepted in person during the meeting or submitted by email to BikePed@txdot.gov by May 5, 2025, to be included as part of the meeting record.
11. Discussion of agenda items for future BPAC meetings.
12. Adjourn. (Action)

The BPAC meeting will be conducted in English. If you need an interpreter or document translator because English is not your primary language or you have difficulty communicating effectively in English, one will be provided for you. If you have a disability and need assistance, special arrangements can be made to accommodate most needs. If you need interpretation or translation services or you are a person with a disability who requires an accommodation to attend or participate in the BPAC meeting, please contact Elizabeth Jones, PTN, at (214) 535-7261 no later than 4 p.m. CT, April 21, 2025. Please be aware that advance notice is required as some services and accommodations may require time for TxDOT to arrange.

BPAC Members

Eva Garcia, Chair, Brownsville
Philip Hiatt Haigh, Vice Chair, Dallas
Kim Hooker, Amarillo
Norman Kieke, Austin
Andrew Bernet, Austin
Ericka Cornejo, El Paso
John Brigham, Houston
Lynnette Wood, Lindale
Will Parrish, San Marcos
Jaimie Lee, Wichita Falls
Aimee Schultze, Houston

TxDOT Technical Staff

Eric Gleason, Director, Public Transportation Division (PTN)
Bonnie Sherman, Planning & Program Development Director, PTN
Noah Heath, Transportation Alternatives Program Manager, PTN
Greg Reiningger, Planning Lead, PTN
Greg Goldman, Data Manager, PTN
Brigida Gonzalez, Planner, PTN
Elizabeth Jones, Planner, PTN
Carl Seifert, Transportation Planner (Contractor), Jacobs
Lauren Osborne, Transportation Planner (Contractor), Jacobs

* * *

Teleconference instructions:

Event address for attendees:

Microsoft Teams [Need help?](#)

https://teams.microsoft.com/join/19%3ameeting_Njc1NTg5NDQtZWYwYi00NjE1LWlwNWetM2UzOGQ4NWFIMiQy%40thead.v2/0?context=%7b%22Tid%22%3a%2239dba476-5c09-4c63-91da-ce7a3ab5224d%22%2c%22Oid%22%3a%226c6ddd09-df0c-4cbb-8d6d-9e2d87c41453%22%7d

Meeting ID: 250 098 074 157 5

Passcode: kH92Nc9V

Dial in by phone

[+1 737-787-8607,,655299037#](tel:+17377878607,655299037#) United States, Austin

[Find a local number](#)

Phone conference ID: 655 299 037#

Join on a video conferencing device

Tenant key: txdot-gov@m.webex.com

Video ID: 113 246 663 3

[More info](#)

For organizers: [Meeting options](#) | [Reset dial-in PIN](#)

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

CERTIFYING OFFICIAL: Becky Blewett, Deputy General Counsel, (512) 463-8630.

MINUTES FOR ADOPTION

Bicycle and Pedestrian Advisory Committee (BPAC) – Virtual Meeting
January 24, 2025

BPAC Committee Members Present and Participating:

Eva Garcia, Chair, Brownsville
Philip Hiatt Haigh, Vice Chair, Dallas
Kim Hooker, Amarillo
Andrew Bernet, Austin
Norman Kieke, Austin
Ericka Cornejo, El Paso
Aimee Schultze, Houston
John Brigham, Houston
Will Parrish, San Marcos
Lynnette Wood, Lindale
Jaimie Lee, Wichita Falls

BPAC Committee Members Absent:

None

TxDOT Present and Participating:

Eric Gleason, Director (PTN)
Bonnie Sherman, Statewide Bicycle / Pedestrian Program Supervisor (PTN)
Greg Reininger, Statewide Bicycle / Pedestrian Planning Lead (PTN)
Elizabeth Jones, Bicycle / Pedestrian Planner (PTN)
Greg Goldman, Data Manager, PTN
Matthew Volkman, Bicycle / Pedestrian Transportation Engineer (PTN)
Noah Heath, Transportation Alternatives (TA) Program Manager (PTN)
Theodore Kosub, Strategic Programs Coordinator (PTN)

Also, Present and/or Participating:

Carl Seifert, Jacobs Engineering Group
Lauren Osborne, Active Transportation Planner (Contractor), Jacobs
Timothy Sorenson, CDM Smith

AGENDA ITEM 1: Call to Order.

Eva Garcia, called the meeting to order at 9:32 A.M.

AGENDA ITEM 2: Safety briefing.

Elizabeth Jones presented this item beginning at 9:33 A.M.
Comments/Questions: No Comments/Questions

AGENDA ITEM 3: Approval of minutes from April 12, 2024 BPAC meeting. (Action)

Eva Garcia introduced this item at 9:37 A.M.

MOTION John Brigham moved to approve the November 22, 2024 BPAC meeting minutes.

SECOND Will Parrish seconded the motion.

The motion passed unanimously at 9:37 A.M.

Comments/Questions: No Comments/Questions

AGENDA ITEM 4: Chair's Report

Eva Garcia presented this item at 9:38 A.M.

In December, ASHTO, the American Association of State Highway Transportation Officials, have their fifth edition of bike guidance coming out. Note: there is a new ASHTO bicycle guidance edition. The rails to trails celebrate trails day is April 26th, 2025, and then the league of American bicyclists designates bicycle friendly communities, businesses and universities. They receive applications throughout the year, March 20th is the deadline for bicycle friendly businesses. June 25th is the deadline for bicycle friendly communities. August 7th is the deadline for bicycle friendly universities.

Comments/Questions: No Comments/Questions

AGENDA ITEM 5: Report from TxDOT's Public Transportation Division (PTN) Director regarding statewide bicycle and pedestrian matters

Eric Gleason presented this item at 9:43 A.M.

Eric provided updates on the Transportation Alternatives (TA) Call for Projects, the Statewide Active Transportation Plan, Phase II of the District Bike Plans, Commissioner Vaughn's Briefing and a summary of the PTAC update.

Comments/Questions: No Comments/Questions

AGENDA ITEM 6: Presentation on TxDOT's Statewide Multimodal Transit Plan (SMTP).

Theo Kosub and Tim Sorenson presented this item at 9:50 A.M.

Eric provided updates on the Transportation Alternatives (TA) Call for Projects, the Statewide Active Transportation Plan, Phase II of the District Bike Plans, Commissioner Vaughn's Briefing and a summary of the PTAC update.

Comments/Questions:

Eva Garcia, mentioned that Eric Gleason spoke to BPAC and their role in the SMTP. This may be a place to leave room as a committee to help us understand how best to do that. Eric explained that Tim's team has set-up a plan to do that work and develop more specific guidelines and efforts for wayfinding.

Andrew Bernet asked if people with disabilities are being incorporated into access and wayfinding options and if input from people with disabilities is being considered.

AGENDA ITEM 7: Presentation on Caracara Trails and Rio Grande Valley Initiatives.

Eva Garcia presented this item at 10:09 A.M.

Comments/Questions: John Brigham, Norman Kieke and Will Parish

AGENDA ITEM 8: Updates from committee members on local and statewide issues.

Eva Garcia introduced this item at 10:48 A.M.

John Brigham mentioned that there is a tandem bike riding event on February 1st. HGAC is about to start a Youth Traffic Safety education and outreach program. They are looking for someone to help with outreach including passing out bike helmets, providing safety education at elementary schools. The program will start in the spring. The TxDOT TA program for outreach is incredible this year. Communities are very interested in the TA program. He is working on sidewalk projects with TxDOT to finish sidewalk connections to schools (example: State Loop 292) to provide sidewalks for kids who live close to the school and have to cross major intersections. City of Weiler has funding from TxDOT for sidewalks. TxDOT is doing work on FM 2920 to connect multiple schools.

Philip Hiatt Haigh mentioned that the City of Dallas just released the first draft of their city bike plan that has not had a lot of movement since adopted in 2011. The city is trying to catch-up to other peer cities in TX. He is excited about the TA set aside funding and he attended the info session that Noah Heath conducted at the NCTCOG.

Aimee Schultze said Harris County released their first ever, 5-year strategic plan late in 2024. A number of goals: related to connecting the community through infrastructure. Many objectives link to the county vision zero program. In February she will be moderating a webinar on a healthy development guide which is a relationship between health and development, specifically in Harris County. She recommended that you consider including health into your strategic plans and projects.

Jaimie Lee said Wichita Falls is hoping public works department will apply to help finish the Circle Trails project.

Andrew Bernet mentioned that in Austin, local CAP METRO is doing a lot of work into wayfinding strategies. They started with a pilot project they are doing to help assist in guiding with audio feedback. Austin recently received approval to look into other opportunities in wayfinding using lidar to track motion phone cell phones to link with accessibility between stops.

Norman Kieke also mentioned CAP METRO wayfinding, stating that they joined with bike rentals and dropped bike stations and guidelines for returning bikes and penalties for not returning. He said it is exciting to see pedestrian crossings being implemented into planning with highway infrastructure from TxDOT.

Will Parrish said the City of Buda is applying for TA funding for Bike/Ped infrastructure. San Marcos City Council just voted to approve a mile of bike lanes that were installed as a pilot program. It was controversial when installed, however; there have been no complaints a year and a half later, because traffic has slowed considerably. It has been a success.

Ericka Cornejo discussed creating outreach and safety for a safer community. One way is through bike event coming. She described that two bike stores coming together to create a cycling community. They are planning a huge event to join community and promote safety in the city of El Paso. On January 30th, they are planning a ride where multiple cities can join in. TxDOT is also participating.

Lynnette Wood said during spring Azaleas time, she has done some mural rides around town taking photos of the murals around Tyler. They want to combine these rides with the azaleas festival in the downtown areas. This is a good use of bike lanes in downtown. This Sunday the local bike club has annual meeting she will be attending.

Kim Hooker provided notes, as she had to leave the meeting early: the Amarillo Independent Public Schools announced the closure of three elementary schools at the end of the 2024 school year. The students will be consolidated at a nearby campus. New bus routes will be added to transport students, but overall, the population of Amarillo is increasing. And their MPO, Metropolitan Planning Organization, has now been allocated increased funding since they have become a TMA, a transportation management area. In January 2025, TxDOT began work on a \$30 million safety improvement project on Amarillo boulevard, the main thoroughfare that intersects the neighborhood, and there are two notable private projects that also just started on Amarillo boulevard near downtown and North Heights. This plan's mission is to reduce 35% of fatal crashes by the year 2035. The last note she adds is the annual 24 hours in the canyon is scheduled for May 31st to June 1st. It is the only simultaneous 24-hour mountain bike and road bike event in the country with competitive and not competitive options. This event is sponsored by the Cancer and Health Foundation, and all funds are donated to the Cancer Survivorship Center.

Eva Garcia mentioned some exciting news in recreational cycling is that they opened a pump track in Harlingen, thanks to the bicycle association. They are also starting to work with Cameron County Parks and Recreation to create a larger pump track, possibly the largest in the country. They are bringing in experts into the region to create this track. They are planning their next event. A lot of our efforts for CycloBia are going to be really promoting National Bike Month, National Walk Month, which both align in May. Their MPO has a call for projects open, in alignment with the TA statewide call.

Comments/Questions: No Comments/Questions

AGENDA ITEM 9: Public comment – Comments will be accepted during the meeting or submitted by email to BikePed@txdot.gov by February 3, 2025, to be included as part of the meeting record.

Eva Garcia opened this item at 11:16 A.M.

Eva Garcia stated that comments will be accepted during the meeting or submitted by email to BikePed@txdot.gov by February 3, 2025, to be included as part of the meeting record.

No public comments were submitted for the January 24, 2025 BPAC meeting.

AGENDA ITEM 10: Updates from committee members on local and statewide issues.

Eva Garcia opened this item at 11:17 A.M.

Comments/Questions:

Philip Hiatt Haigh mentioned following-up on Harris County efforts to finalize sidewalk master plan. He also followed-up on Theresa Poer as a potential speaker for a future meeting.

John Brigham mentioned that Harris County has an interactive map to show progress of these sidewalk projects. He hopes other counties will take on this effort as well. He will send some info prior to the next meeting and provide more info. He also mentioned reading an article on the increase of the homeless population being hit on roadways, specifically in metro areas / Austin.

Andrew Bernet reminded us to provide updates to PROWAG in a future meeting.

AGENDA ITEM 11: Adjourn. (Action)

Eva Garcia asked for a motion to adjourn at 11:25 A.M.

MOTION Aimee Schultze motioned to adjourn the meeting.

SECOND Philip Hiatt Haigh seconded the motion.

The motion passed unanimously at 11:58 A.M.

Prepared by:

Approved by:

Elizabeth Jones
Public Transportation Division

Eva Garcia
Chair, Bicycle Advisory Committee



Statewide Active Transportation Plan

Bicycle and Pedestrian Advisory Committee Meeting



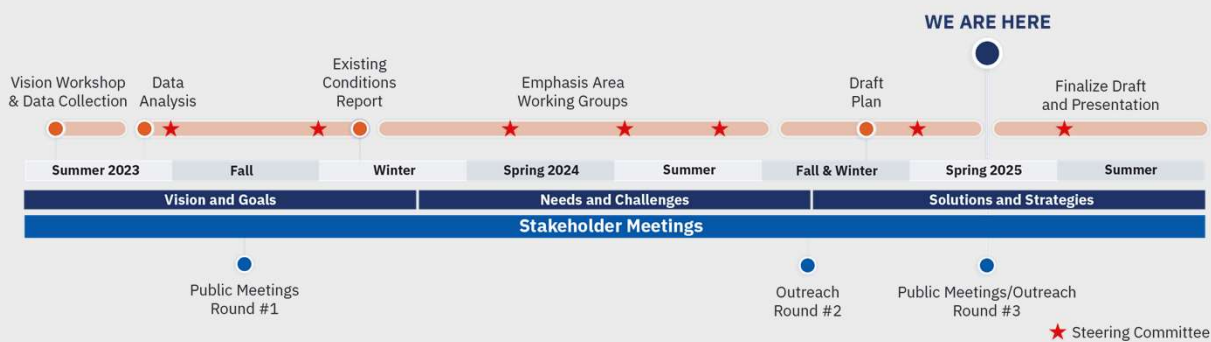
April 25, 2025

Statewide Vision for Active Transportation



A safe, accessible, connected and fully integrated pedestrian and bicycle network that increases active mobility and supports health, economic vitality and resiliency within communities and across Texas.

SATP Schedule Overview



3



April 25, 2025

Updated Challenges and Strategies

Slide 3

CS0

CD&P updating

Smith, Chelsey, 2025-03-18T16:58:34.388

Updated Challenges

1 Texas cities are rapidly growing, increasing traffic congestion.

2 Current funding for active transportation does not meet demand and need.

3 Pedestrians and bicyclists are disproportionately represented in roadway fatalities.

4 Confusion about rules of the road.

5 Many active transportation routes are not comfortable for all users.

6 Limited space can lead to less than optimum active transportation facility or network designs.

7 Emerging roadway design techniques and technologies have not been integrated to their fullest extent to improve active transportation.

8 Active transportation is not considered in every planning and design process.

5

Updated Challenges

9 Active transportation travel options do not accommodate the local community needs.

10 Statewide network for long-distance active transportation needs further investments.

11 Physical barriers limit access to opportunities, especially for people with disabilities.

12 Limited connections to other travel modes, including transit.

13 Multimodal connections and amenities serving ports of entry are limited.




14 Many active transportation facilities are not well-maintained.

15 The economic impact of active transportation is not well understood.

16 Coordination between land use planning and active transportation implementation needs further integration.




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Updated Strategies & Supporting Actions

Strategy	Description	Supporting Actions
 Improve active transportation safety	A positive travel experience requires safe conditions, which can be achieved through safe designs, complete networks, enhanced crossings, education, and coordinated enforcement. Combined, these conditions offer the potential to generate more active travel.	<ul style="list-style-type: none"> Construct more dedicated and protected active transportation infrastructure Create modern designs that prioritize safety Place an emphasis on safe crossings and intersections Invest first in locations with the greatest safety needs Optimize regulatory efforts and align enforcement efforts
 Fund and construct more active transportation infrastructure	Leverage existing resources to accelerate the construction of more sidewalks, bikeways, multi-use paths, and trails so that active transportation is a more effective travel option.	<ul style="list-style-type: none"> Increase funding for active transportation to create a steady stream of projects Prioritize funds to places with the greatest needs, connections with transit, and that support the economy and tourism Align efforts with partner agencies, private sector, and local communities
 Integrate active transportation with other travel modes	In communities with public transit and micromobility options, connections between active transportation can play a key role in completing trips. These “last mile connections” improve the beginning and ending of each trip and offer safe travel to and from trip origins and destinations, improving the viability and comfort of transit as a travel option.	<ul style="list-style-type: none"> Address physical barriers in active transportation networks Design transit corridors to integrate with active transportation environments Expand access to opportunity through mobility hubs and transit

7

Updated Strategies & Supporting Actions

Strategy	Description	Supporting Actions
 Integrate active transportation early in project planning and scoping	When active transportation is considered and integrated proactively, achieving consistent implementation becomes more likely.	<ul style="list-style-type: none"> Consider integrating active transportation earlier in the process Increase technical support and capacity building Update project prioritization processes for funding programs Enhance data collection and reporting
 Address physical barriers in the active transportation networks	Without strategies to address physical barriers (bridges, large intersections, and wide roads) the system will not operate as envisioned and can potentially dissuade users and expose travelers to less-optimal alternatives.	<ul style="list-style-type: none"> Identify and address key barriers through community engagement and data collection Investment in key corridors, innovative designs, and enhanced routing
 Implement and integrate optimal designs to improve travel experience	A positive travel experience has a greater likelihood of being repeated than one that is negative. A combination of infrastructure design, exposure to risk, urban design, and comfort features such as shade and benches can combine to influence travel experience.	<ul style="list-style-type: none"> Implement designs that emphasize safety and travel experience Create and implement context-appropriate designs Develop statewide best practices for the design and operations of micromobility Train engineers to develop designs that lead to consistent application of active transportation facilities Monitor design exceptions to ensure consistent application of design guidance

8



MEAO

Slide 8

MEA0 Typo in this image in second supporting action cell... "Identifiy" should be "Identify"
Marlow, Emily A, 2025-04-16T15:53:18.416

SC0 0 Pls send Jeff and Stephen an email
Smith, Chelsey, 2025-04-22T17:14:24.093

Updated Strategies & Supporting Actions

Strategy	Description	Supporting Actions
 <p>Develop and expand active transportation networks statewide</p>	<p>An interconnected system of active transportation and transit can significantly increase the reach of travelers to access critical destinations and new opportunities. When a traveler's reach is increased, so are the number of significant destinations including employment, healthcare, shopping, daycare, education, and job training.</p>	<ul style="list-style-type: none"> • Create processes that lead with active transportation • Identify a priority investment network (PIN) to advance SATP goals • Investment in the Bicycle Tourism and Trail Network (BTTN) • Join the U.S. Bicycle Route System
 <p>Work with partners and communities to develop plans, increase awareness, and implement active transportation</p>	<p>TxDOT alone cannot build and maintain the envisioned active transportation system. It will require partnership with local communities and developers to build and operate a more complete and effective active transportation system. Creating awareness has the potential to build ongoing support across the state for the construction of more active transportation infrastructure. Education can help promote consistent and safe designs and informed travelers.</p>	<ul style="list-style-type: none"> • Select opportunities for more active transportation design training • Lead an active transportation awareness campaign with partnerships • Enhance public engagement in support of active transportation
 <p>Improve conditions through maintenance and repair</p>	<p>New roads sometimes take years to plan, design, and construct, but maintenance happens daily. As new resources, training, and expectations are introduced, regular maintenance can play a role in creating safe conditions for active transportation travelers.</p>	<ul style="list-style-type: none"> • Expand asset management programs • Generate safety and longevity performance measures • Enhance awareness and education regarding the role of maintenance and repair

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Priority Actions

Priority Actions

Accelerating implementation requires priority actions to be taken over the next five years.

Effectively leverage resources for active transportation

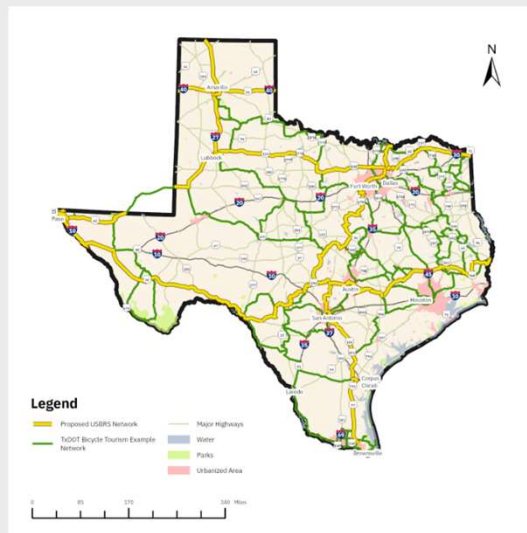
1. Improve flexibility of existing funding sources.
 2. Identify new and innovative funding sources.
- TxDOT doesn't have the authority required to increase existing funding, but it can identify strategies that could result in more resources for active transportation infrastructure including:
- ✓ Pursuit of more grants and funding.
 - ✓ Establish transportation funding be assigned to active transportation.
 - ✓ Development of a dedicated multimodal streets fund.

Identify and invest in statewide active transportation networks

1. Define and identify a Priority Investment Network (PIN) to direct investments in critical corridors.
2. Make initial investments in the Bicycle Tourism and Trail Network (BTTN).
3. Identify a candidate route for the U.S. Bicycle Route System (USBR).

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Priority Actions



While there are currently no US Bicycle Routes designated within the state of Texas, the National Corridor Plan identifies several potential corridors, including:

- USBR 66 across the Texas Panhandle
- USBR 90 from El Paso to Beaumont
- USBR 84 from El Paso to Texarkana
- USBR 55 through the Dallas-Fort Worth Metroplex and the Texas Hill Country to the Lower Rio Grande Valley.

The SATP provides potential candidates to be considered for inclusion in the USBRS.

12

Slide 12

BS0 The plan does not identify an "SATP network". Re-word this sentence.
Bonnie Sherman, 2025-04-18T20:54:18.986

CS0 0 Deleted network
Smith, Chelsey, 2025-04-22T19:58:17.999

Priority Actions

Develop design example and train for consistent application of active transportation	<ol style="list-style-type: none"> 1. Create design prototypes for incorporating bicycle and pedestrian infrastructure in new and retro-fit projects (especially those with challenging constraints) 2. Additional internal and external training to increase consistency of active transportation applications across the state. <ul style="list-style-type: none"> ✓ Expand on the Transportation Alternatives Technical Assistance Program to provide support to more local and regional governments. ✓ Improve internal training programs to ensure all TxDOT districts have consistent guidance and resources to design active transportation infrastructure consistently.
Enhance data collection and reporting	<ul style="list-style-type: none"> ✓ Enhance data collection with new and emerging technologies and by partnering with private agencies. ✓ Implement dashboards, maps, and other tools that can help integrate and display information for reporting. ✓ Detailed geospatial intersection data needs to be collected to improve analysis and countermeasure selection for pedestrian and bicycle crashes at intersections.
Lead an active transportation awareness campaign with partners	<ul style="list-style-type: none"> ✓ Upon the adoption of the SATP, an impactful awareness campaign can be launched to promote the plan and highlight partnership opportunities. ✓ The campaign can help create a more connected, accessible, and safe transportation network across Texas, ultimately enhancing the quality of life for Texans.

13

Discussion



- Do you agree that these items are the highest priority for TxDOT to tackle first?
- Do you think we have missed anything in our initial list of actions?

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Slide 13

BS0 Will there be an opportunity for BPAC to weigh in on priorities?
Bonnie Sherman, 2025-04-18T20:54:44.002

CS0 0 Yes. Added.
Smith, Chelsey, 2025-04-22T20:02:13.833

CS0 1 Yellow highlighted text was added from steering
Smith, Chelsey, 2025-04-22T20:32:24.972



April 25, 2025

Measuring Progress



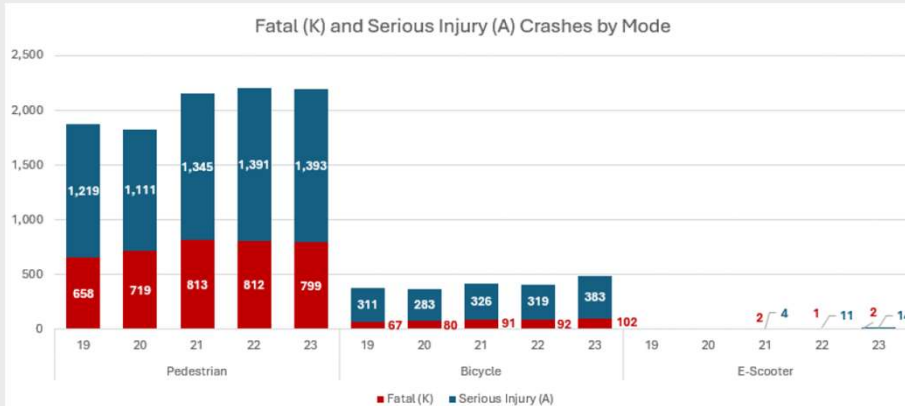
Connecting you with Texas.

Progress Measures

Progress Measure	Current Value (Statewide)	Desired Trend
Active Transportation Fatal and Serious Injury Crashes (Pedestrians, Bicycles, and E-Scooters)		
Active Transportation Fatal Crashes	903	↓
Active Transportation Serious Injury Crashes	1,790	↓
Active Transportation Fatal Crashes per 100,000 Population	2.96	↓
Active Transportation Serious Injury Crashes per 100,000 Population	5.87	↓
Active Transportation Mode Share		
Percent of Commute Trips by Walking	2.4%	↑
Percent of Commute Trips by Biking	0.4%	↑
Amount of Active Transportation Infrastructure Constructed Annually		
Pedestrian Infrastructure (FY 24 - Miles)	238.10	↑
Bicycle Infrastructure (FY 24 - Miles)	439.36	↑

Note: Pedestrian and bicycle facility lengths should not be added together due to the overlap (i.e., SUPs are included in both).

Progress Measure #1: Active Transportation Fatalities and Serious Injuries

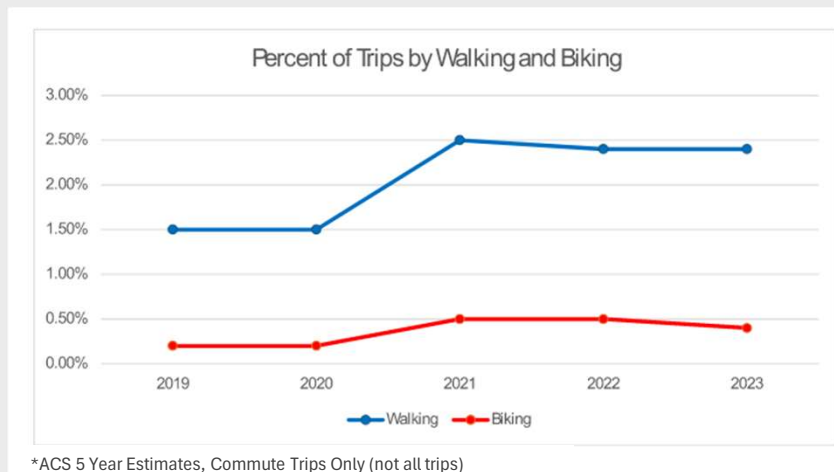


Desired Trend:



17

Progress Measure #2: Active Transportation Mode Share



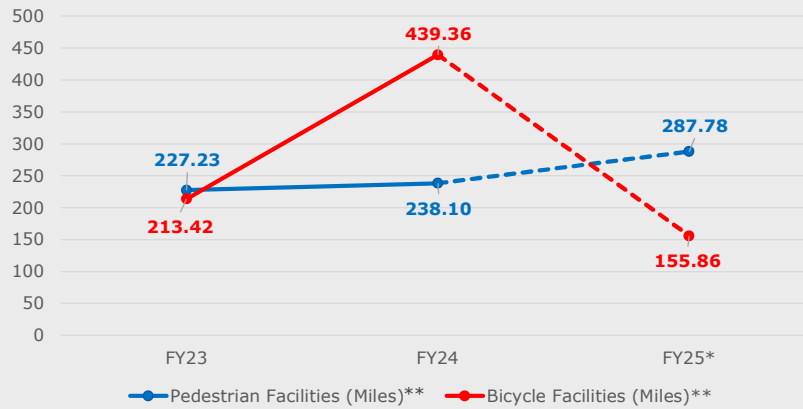
Desired Trend:



18

Progress Measure #3: Amount of Active Transportation Facilities Constructed

Bicycle and Pedestrian Facilities by Fiscal Year



*Projected based on Sep '24-Jan '25 data
 **Shared-Use Paths are counted in both totals

Desired Trend:



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Next Steps

Next Steps



- **MARCH–APRIL 2025:** Update, review and finalize draft plan document.
- **EARLY JUNE–JULY 2025:** Conduct engagement round 3 to provide a plan for public comment. Analyze public comments as they are received.
- **MID-LATE JULY 2025:** Update, review, and finalize plan.
- **TBD:** Present plan to Texas Transportation Commission.

**timeframe subject to change*

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Round 3 Engagement Planning

- Coordination with the SMTP team for another combined round of outreach.
- Circling back virtually in a series of meetings in April and May with EAWGs, BPAC, MPOs, local governments and advocacy groups.
- Public outreach will occur from early June to July. We will conduct in-person public meetings across the state, with virtual options available for those unable to attend.

Round 1 Locations	Round 3 Suggested locations
Amarillo	Lubbock
El Paso	El Paso
Dallas	Fort Worth
Waco	Laredo
Tyler	Texarkana
Austin	Austin
Houston	Houston
San Antonio	San Antonio
Brownsville	Corpus Christi
San Angelo	Abilene

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April 25, 2025

Greg Reininger

Planning Lead

Public Transportation Division

Texas Department of Transportation

☎ (737) 285-6184

✉ Gregory.Reininger@txdot.gov

Bonnie Sherman

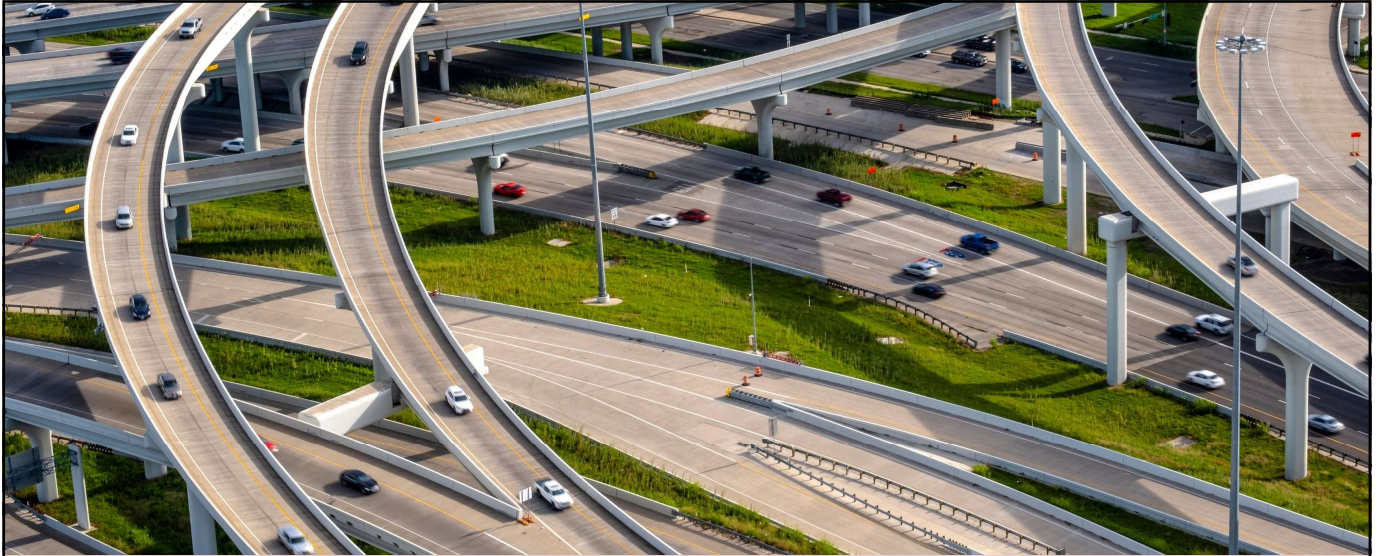
Planning and Program Development Director

Public Transportation Division

Texas Department of Transportation

☎ (512) 571-9825

✉ Bonnie.Sherman@txdot.gov



Video Analytics for Pedestrian Detection

Theresa Poer, P.E.



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- 5** | Technology
- 6** | Pilot Project Results
- 7** | Next Steps & Expansion



TransVision Current Stats

- Opened June 2000
- Upgraded video wall in TMC last year
- TMC runs 24/7
 - 4 TxDOT employees/15 contracted employees

Field Network

420 CCTV
96 DMS
285 Traffic sensors
38 Wrong Way Driver devices
50 Cameras w Video Analytics



2023 District Innovation Pilot Project

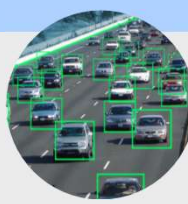
PROBLEM

- 143 fatal ped crashes and 172 incapacitating crashes for 2021-2023 in FTW
- TMC has need for real-time detection of roadway anomalies



INNOVATION

- Use of video analytics and image processing to quickly detect roadway anomalies
- Minimize costs by use of existing ITS infrastructure



BENEFITS

- Prove the technology works
- Reduction in roadway anomaly-related crashes
- Improved TMC detection and response times to incidents
- Provide real-time notification of roadway hazards to approaching motorists





PEDESTRIAN SAFETY ACTION PLAN

Summary Statistics

Fort Worth District



STATEWIDE Pedestrian Crashes¹ (2017-2021)

27,693 Crashes

80,720 Miles²



DISTRICT WIDE Pedestrian Crashes (2017-2021)

2,174 Crashes

8% of statewide crashes

18,005 Miles

6% of statewide miles

280 Pedestrian Fatalities

15% of statewide fatalities

514 Pedestrian Serious Injuries

7% of statewide serious injuries

PEDESTRIAN CRASHES BY INJURY SEVERITY

Minor (M) Serious (S) Fatal (F)

2017 2018 2019 2020 2021

Minor (M) Serious (S) Fatal (F)

Minor (M) Serious (S) Fatal (F)

Minor (M) Serious (S) Fatal (F)

Minor (M) Serious (S) Fatal (F)

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Minor (M) Serious (S) Fatal (F)

FACTORS AND CONDITIONS³ FOR ALL PEDESTRIAN CRASHES

51% Low light conditions

35% Pedestrian failed to yield to vehicle

19% Driver or pedestrian inattention

As reported by the investigating police officer at the time of the crash

VULNERABLE POPULATIONS

20% Involved a child pedestrian aged 16 and younger

10% Involved an adult pedestrian aged 65 and older

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Involved a child pedestrian aged 16 and younger

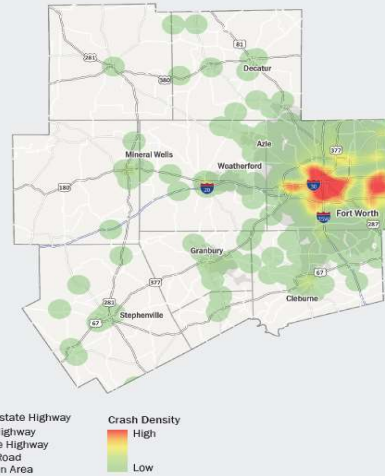
Involved an adult pedestrian aged 65 and older

Involved a child pedestrian aged 16 and younger

Involved an adult pedestrian aged 65 and older

Involved a child pedestrian aged 16 and younger

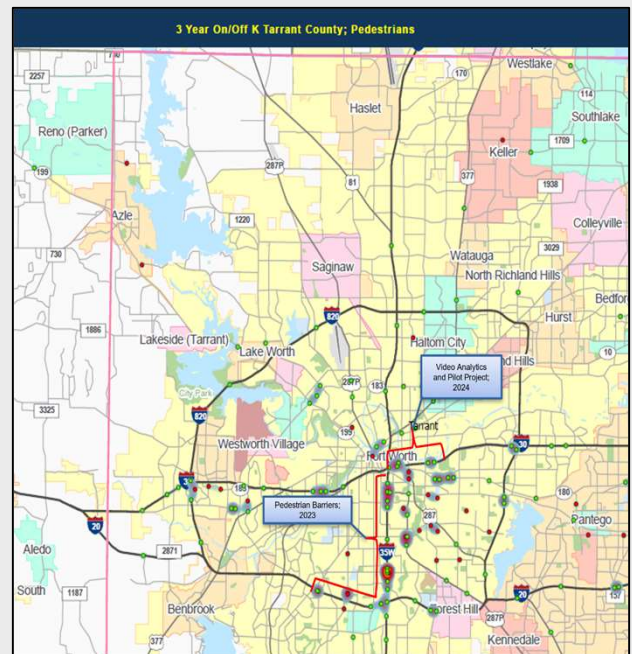
District-wide Pedestrian Crash Heatmap



Pilot Corridor Selection

IH 30 from Hulen to Beach(5 miles)

- 2 Fatal Ped Crashes (2023)
- 19 Incapacitating Injurys
- 95% Failure to Yield ROW (Ped)
- Near Downtown Area
- Pedestrian Activity observed by TMC





Technology

- TrafficVision Video Analytics on 10 existing CCTV
- Zones to detect anomalies



Alerts During Pilot

From: trafficvision.alerts@gmail.com <trafficvision.alerts@gmail.com>
Sent: Wednesday, March 20, 2024 10:25 AM
To: Joe@omnibond.com <Joe@omnibond.com>; AMLT-FTW <AMLT-FTW@txdot.gov>
Subject: Incident alert: Pedestrian @ NS-Z1 [IH30 @ Jennings]

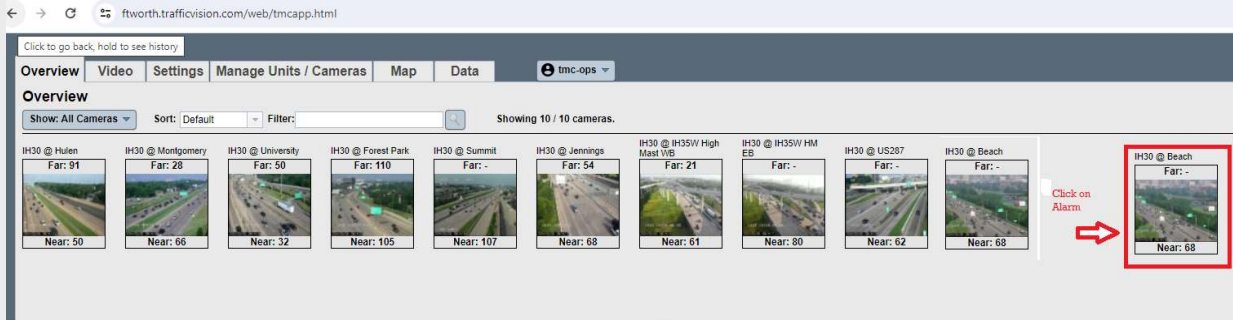
This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender.



Snapshot: <https://ftworth.trafficvision.com/publinks/1444667a-2357-425c-903a-24af96222a7d>
Video: <https://ftworth.trafficvision.com/playclip?src=/publinks/8073f41b-c775-4580-ae0c-7c705f9139b4>



Process



1. Go to alert and verify if it is a true event
2. Observe pedestrian for 1-2 minutes.
3. Execute Pedestrian Alert as needed
4. Deploy DMS boards, Call 911



Pilot Project Results

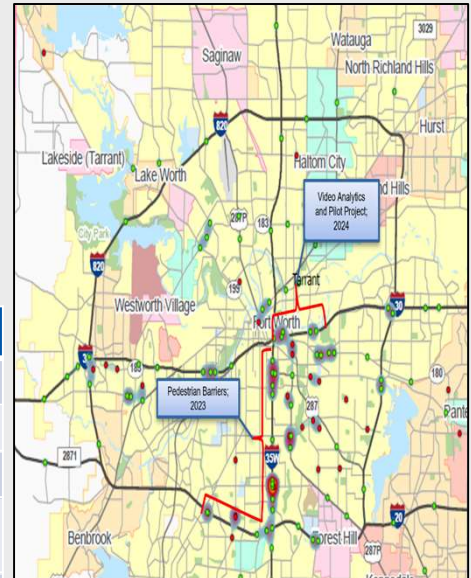
Traffic vision-Locations	PED-Alerts	False Alarms	PED on HWY	911 Called/DMS Boards Activated
IH-30 @ Hulen	44	10	34	0
IH-30 @ Montgomery	84	20	64	5
IH-30 @ University	41	7	34	3
IH-30 @ Forest Park	133	35	98	7
IH-30 @ Summit	60	12	48	3
IH-30 @ Jennings	53	10	43	3
IH-30 @ IH35W High Mast WB	55	12	43	0
IH-30 @ US-287	171	42	129	8
IH-30 @ Beach	102	21	81	3
TOTALS: Thru April 30, 2024	743	169	574	32



Expansion of Project

40 Cameras added on IH 35W from Meacham to FM 1187

Abandoned/Stalled Vehicle Detection added



July 2024	August 2024
255 Peds	121 Peds
15 DMS Activations/911 calls	13 DMS Activations/911 calls
11 Peds removed	5 Peds removed
460 Abandoned/Stalled Vehicles	492 Abandoned/Stalled Vehicles
	12 Congestion Alerts



Information Sharing with our Traffic Incident Management Teams (TIMS)

- Communication on the process
- Pedestrian Hot Spots for activity
- Abandoned Vehicle Hot Spots



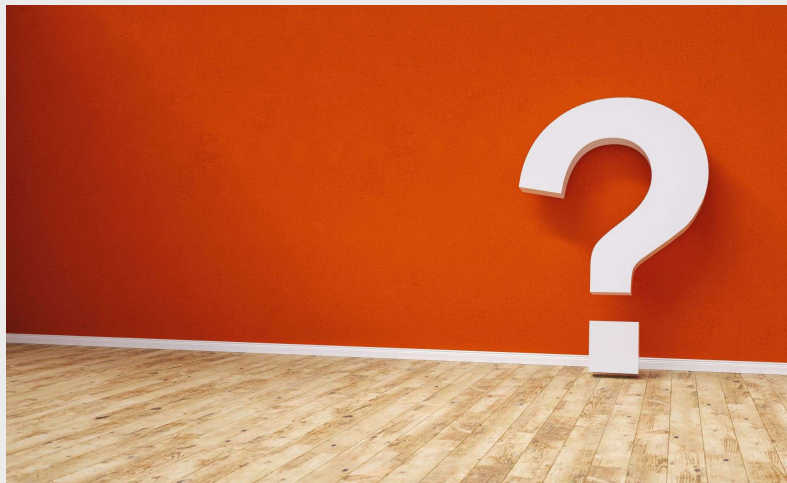


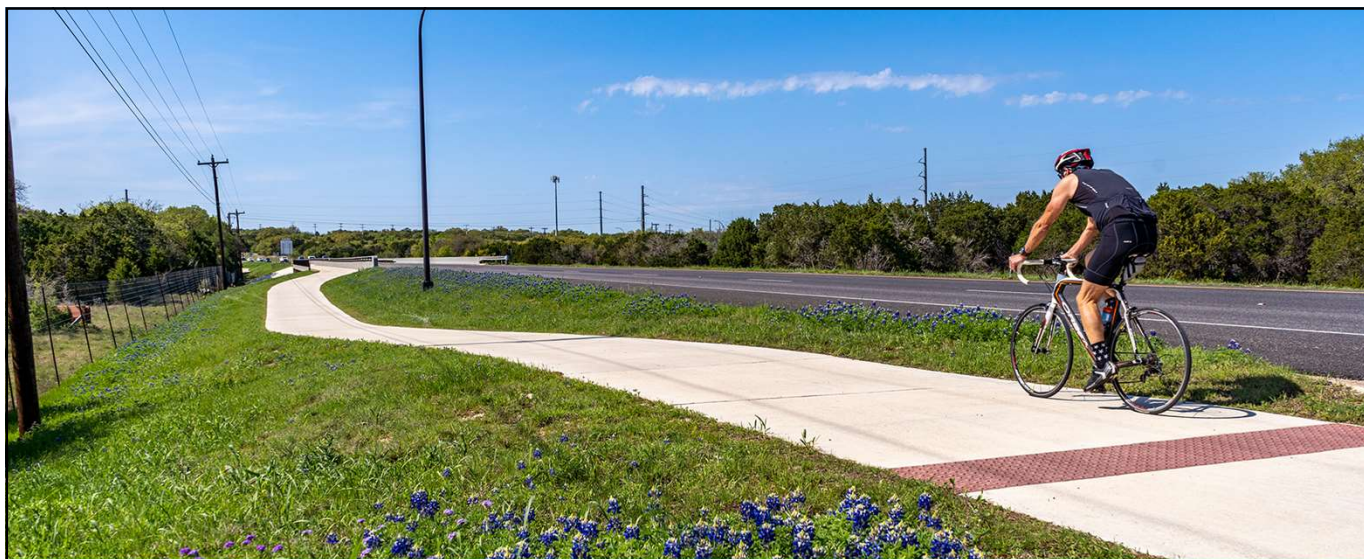
Summary

- ✓ Proved the technology can work for pedestrian detection
- ✓ Added an additional hot spot
- ✓ Stalled and Abandoned Vehicles and Slow Traffic Alerts to the analytics
- ☐ Continue to work with law enforcement on communication
- ☐ Work to deploy smaller DMS in target areas
- ☐ Expand to other hot spots areas
- ☐ Use video analytics for additional wrong way driver detection



Questions





Bicycle and Pedestrian Advisory Committee PROWAG and TxDOT Roadway Design Manual



April 22, 2025



Connecting you with Texas

Table of Contents

- 03** | PROWAG & RDM Reference Locations
- 04-08** | TxDOT Roadway Design Manual (RDM)
- 09-13** | Public Right of Way Accessibility Guidelines (PROWAG)
- 14-21** | Common Design Requirements

PROWAG and RDM

BS0

- Public Right of Way Accessibility Guidelines (PROWAG)
 - US Access Board Website
 - <https://www.access-board.gov/prowag/>
- TxDOT Roadway Design Manual (RDM)
 - Available through TxDOT Online Manuals
 - <https://onlinemanuals.txdot.gov/TxDOTOnlineManuals/txdotmanuals/rdw/rdw.pdf>
 - Pedestrian Facilities
 - Chapter 19 (pages 687-768 (81 pages))

3

TxDOT Roadway Design Manual (RDM)

- Published by TxDOT Design Division
- Guides geometric design of roadway facilities
- Synthesis of current information and operating practices
- Implementation as projects built, rebuilt, future undertakings
- Design *recommendations*, not absolute design requirements
 - Requirements also defined in other sources
 - ADA Accessibility Guidelines (ADAAG)
 - Texas Accessibility Standards (TAS)
 - Public Right of Way Accessibility Guidelines (PROWAG)

4

Slide 3

BS0 Move this slide to the end under "references"
Bonnie Sherman, 2025-04-10T23:31:51.711

Slide 4

BS0 further
Bonnie Sherman, 2025-04-10T23:32:18.252

Roadway Design Manual

- Plan and design projects as if a pedestrian access route will be constructed BS0
 - Reduces complexity and cost of future pedestrian infrastructure retrofit projects
 - Acquire ROW
 - Extend culverts
 - Design intersections for accessible crosswalks
 - Locate utilities and drainage systems to accommodate pedestrian systems.

5

Roadway Design Manual

- Alteration projects
 - Compliance to accessibility requirements is required to the maximum extent feasible
 - Non-compliant elements must be reported to the District ADA liaison and included in the TxDOT ADA Transition Plan.
- New construction projects
 - Greenfield conditions
 - All design elements must be fully compliant with PROWAG.

6

Slide 5

BS0 In urbanized areas only? Or does this apply to rural areas?
Bonnie Sherman, 2025-04-10T18:27:19.746

Roadway Design Manual – Alteration vs Maintenance

- **Alteration:** add or replace curb ramps
 - Resurfacing
 - Addition of a new layer of asphalt
 - Reconstruction
 - Concrete pavement rehabilitation and reconstruction
 - Mill and fill or mill and overlays
 - Micro-surfacing and thin lift overlays
 - Cape seals
 - In-place asphalt recycling
- **Maintenance:** – new or replacement curb ramps not required
 - Seal coats (chip seals)
 - Fog seals
 - Slurry seals
 - Joint repairs
 - Diamond grinding
 - Pavement patching
 - Spot repairs

7

Roadway Design Manual – Accessibility Requirements

- Projects affecting pedestrian facilities must comply with accessibility requirements established in the PROWAG

8

Slide 7

BS0 I recommend moving this slide to "references" at the end, and just mentioning examples in the previous slide.

Bonnie Sherman, 2025-04-10T23:35:12.304

Public Right of Way Accessibility Guidelines (PROWAG)

- US Access Board issued final rule August 2023
 - Federal Register (88 FR 53604) Document Number 2023-16149
- US Department of Transportation adopted PROWAG December 18, 2024
 - second federal agency or department to adopt PROWAG for enforcement
- The General Services Administration (GSA) adopted PROWAG in July 2024
- Department of Justice (DOJ) has NOT adopted PROWAG
 - Not yet enforceable

9

Public Right of Way Accessibility Guidelines (PROWAG)

- Framework for public entities to meet obligations to make their programs, services, and activities in the public rights of way readily accessible to, and useable by, individuals with disabilities
- PROWAG clarifies descriptions for public right of way pedestrian elements but not adequately described in either the 2010 ADA Standards or the Texas Accessibility Standards

10

Slide 9

BS0 This slide could be moved to references at the end, or you could leave it here if you think it's essential

Bonnie Sherman, 2025-04-10T23:38:16.280

Public Right of Way Accessibility Guidelines (PROWAG)

- Texas Administrative Code (16 TAC Part 4, §68.102) allows Texas Department Licensing and Regulation (TDLR) to accept compliance with PROWAG in lieu of Texas Accessibility Standards for projects in the public ROW
- FHWA encourages use of PROWAG as best practice
- RDM advises TxDOT designers to use PROWAG for accessible design requirements in the public ROW.
 - TAS and DOJ ADA Standards (2010) used for design and construction of *buildings*
 - Sites in the public ROW, such as safety rest areas, will use PROWAG for applicable guidance.

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Public Right of Way Accessibility Guidelines (PROWAG)

- Guidelines from the US Access Board addresses access to, and on:
 - Public streets
 - Sidewalks
 - Curb ramps
 - Pedestrian signals
 - Crosswalks
 - On-street parking
 - Other public ROW components

12

Public Right of Way Accessibility Guidelines (PROWAG)

- PROWAG webpage: **<https://www.access-board.gov/prowag/>**
 - Accessibility Guidelines
 - Application and Administration
 - Scoping Requirements
 - Technical Requirements
 - Supplemental Technical Requirements

13

PROWAG – Common Requirements

- **Clear Width**
 - ADA minimum: 4 feet, exclusive width of curb
 - TxDOT's RDM standard 5 feet minimum, exclusive width of curb
 - Clear width of Pedestrian Accessible Route may be reduced to 4-ft for short distances, including across driveways
 - Passing spaces (5 feet by 5 feet) to be provided at max intervals of 200 feet

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Slide 13

BS0 Suggest moving this slide to the "references" at the end.
Bonnie Sherman, 2025-04-10T18:16:37.277

PROWAG – Common Requirements

- Obstacles/Obstructions and Protruding Objects: BS0
 - **Obstacles / Obstructions** are objects along or overhanging any portion of the sidewalk or other pedestrian circulation path.
 - Street fixtures (signal and sign hardware, utilities, luminaires)
 - Street furniture (benches, bus stops, drinking fountains, bicycle racks).
 - Areas with vertical clearance less than 80-in in height must have a barrier with the leading edge of the barrier at least 27-in in height.
 - **Protruding objects** are obstructions that protrude more than four inches (4") into pedestrian circulation path between 27-in and 80-in in height.

15

PROWAG – Common Requirements

- **Accessible Pedestrian Signals:** BS0
 - Where pedestrian signal heads are provided at street crossings, crossing must include accessible pedestrian pushbuttons
 - Application
 - New projects
 - Signal controller and software are altered
 - Signal head is added or replaced

16

Slide 15

BS0 Does this differ from RDM? Is RDM silent on this?
Bonnie Sherman, 2025-04-10T23:41:25.733

Slide 16

BS0 RDM?
Bonnie Sherman, 2025-04-10T23:41:41.284

PROWAG – Common Requirements

- **Curb Ramps: Design**

- Curb ramps are a fundamental element of the Pedestrian Access Route
 - Form vital connection between sidewalks and street crossings
- Required at all pedestrian crossings, including midblock crossings
- TxDOT preferred standard
 - Two curb ramps per corner
 - Aligning with desired paths of travel
- PROWAG requires two curb ramps or a blended transition

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PROWAG – Common Requirements

- **Curb Ramps: Cross Slopes**

BS0

- Midblock pedestrian street crossings
 - PROWAG permit curb ramp cross slopes to be equal to or less than the street or highway grade
- Else, 2% cross slope per PROWAG

18

Slide 18

BS0

RDM?

Bonnie Sherman, 2025-04-10T23:43:02.227

PROWAG – Common Requirements

- **Detectable Warning Surfaces:**

- Indicate presence of hazards in the line of travel
 - Edge of roadway (but not driveways) where curb is removed
 - Railroad crossings (not in the roadway)
- Stop and determine nature of the hazard before proceeding further
- Must contrast visually with the adjacent surfaces
 - Dark on light or light on dark
- Must extend a minimum of 2 feet in the direction of pedestrian travel
- Must extend the full width of the curb ramp or blended transition
- Generally placed at the back of the curb or edge of street
 - May be curved along the corner radius

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PROWAG – Common Requirements

- **Driveways – Cross Slope Compliance**

BS0

- Sidewalks crossing driveways must comply with the same cross slope requirements (no more than 2.0 percent) as the rest of the sidewalk corridor
- Driveways may serve as the required passing space
 - If pedestrian access route is between 48 and less than 60 inches wide for 200 feet

20

Slide 19

BS0 RDM?

Bonnie Sherman, 2025-04-10T23:43:21.445

Slide 20

BS0 RDM?

Bonnie Sherman, 2025-04-10T23:43:58.879

PROWAG – Common Requirements

- **Work Zone and Temporary Traffic Control**

- Pedestrian Accommodations
 - Appropriate signing must be provided in advance of decision points
 - RDM states PROWAG requires motion activated signs conveying same information as printed signs be provided to ensure that pedestrians with vision disabilities are provided the guidance needed to navigate the temporary pedestrian route.