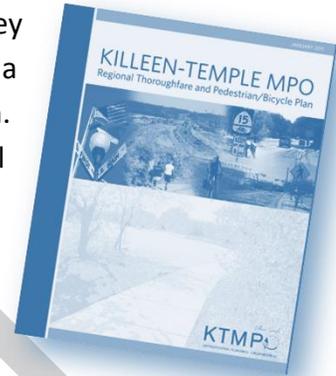


## REGIONAL THOROUGHFARE AND PEDESTRIAN/BICYCLE PLAN

### Development Process

The MPO developed a Regional Multimodal Plan as one of the key elements of its transportation planning process in order to create a forward-thinking blueprint for the transportation system in the region. This “advance planning” tool provides a vision for the future regional transportation system that is required for the continued mobility and prosperity of the region well into the future. More specifically, it defines the roadway, bicycle, pedestrian facilities needed to serve both existing and long-term future development.



For the purpose of this chapter, the plan is comprised of a bike-pedestrian element. These two elements are similar in that they both establish a long-term vision for the mobility needs of the region. However, they differ in terms of the level of detail regarding the specific transportation recommendations required to realize the full transportation network. The MPO embarked on an effort in 2018 to update the original Regional Thoroughfare and Pedestrian/Bicycle Plan to incorporate how the bicycle/pedestrian network into other transportation modes.

**The complete Regional Thoroughfare and Pedestrian/Bicycle Plan is found in Appendix E.**

In FY2018, KTMP, with assistance from CDM Smith, is working on a Regional Multimodal Plan (RMP). The RMP will define a vision and goals for integrated multimodal transportation systems in the KTMP area, and will develop specific needs-based potential projects for the thoroughfare, bicycle, pedestrian, transit, and freight systems. The Plan will not impose controls or projects on local jurisdictions. Rather, it can serve to define common goals, definitions, descriptions of needs, and design criteria, and can illustrate best practices for guide local jurisdictions in defining and selecting their own projects.

For the development of the RMP, a survey is currently live and accepting respondents. Outcomes of completed surveys include the following:

- Trails & Sidewalks along arterial roadways are needed;
- High-volume and higher-speed routes still need access by multiple modes.
- “Multimodal” should provide smooth transition from one use to another;
- Continuous linear hike/bike system through communities are needed;
- It’s important to not forget about street trees and the value they provide to make our

pedestrian network inviting and attractive;

A somewhat common theme with some of the surveys was that roads are only meant for motorized vehicles and not bicycles and pedestrians. As a result, the RMP will include a section about the rights for bicyclists and pedestrians and ways KTMPPO can further educate its citizens.

The RMP is scheduled to be completed in August of 2018. For the upcoming 2045 MTP Project Call, projects that lie on a corridor segment in the RMP can receive points.

### **Regional Coordination**

In order to facilitate the creation of the pedestrian/bicycle portion of the plan, a pedestrian/bicycle advisory committee was established. This committee consisted of representatives of each of the cities and counties within the MPO, the Hill Country Transit District, TxDOT and citizen stakeholders. KTMPPO had hopes to utilize this advisory committee for continual plan oversight, but the committee dissolved due to waning interest. The MPO is using the planner roundtables to reconnect with the municipalities. Historically, municipalities have shown the ability to draw citizen-based interest groups. This will facilitate KTMPPO to reestablish public interest and possibly create a new advisory group.

The updated pedestrian/bicycle plan reflects a continuing collaborative effort among MPO-member jurisdictions, the MPO Technical Advisory Committee, and the MPO Transportation Planning Policy Board. The project utilized a substantial amount of existing information from the MPO's GIS database; project schematics and other planning documents from both Fort Hood and TxDOT; and the formal Comprehensive Plans, Thoroughfare Plans, and Master Trail Plans adopted by the cities of Belton, Copperas Cove, Harker Heights, Killeen, Temple, and the Village of Salado. Significant efforts were made during the development, review, and refinement of the plan to include the technical expertise, public input, and political leadership within the KTMPPO planning area. All local government agencies were contacted to gather their insight as to the long-term needs for their communities and to refresh the planning assumptions that were made during the development of their latest plans. A careful review by the MPO Technical Advisory Committee ensured participation of a wide cross-section of local government technical staff.

### **Relationship to Other Planning Documents**

The regional thoroughfare element of the plan is primarily a map that provides a vision for the ultimate roadway build-out for major roadway facilities. Similarly, the recommended bicycle

accommodations presented in the plan represent an ideal network of non-motorized transportation routes. As such, the recommendations pertaining to future thoroughfares and bicycle accommodations contained herein should not be construed as a commitment by any MPO-member jurisdiction to fund or construct any facility, in any particular location, at any particular time. Other planning and programming documents, such as this Metropolitan Transportation Plan, the Transportation Improvement Program, and various county and city capital improvement programs, will specify individual projects that, over time, will accumulate to define the ultimate build-out of the transportation network presented in this plan. In other words, the thoroughfare plan simply creates a master guide for the development of the regional transportation system and helps guide the MPO in the identification of projects for its next MTP.

The RMP will feed into the 2045 Metropolitan Transportation Plan (MTP), but will not be constrained by MTP requirements for fiscal constraint and funding categories. The Plan will instead present a full range of needs and potential projects, and will include elements not required in the MTP or relevant for project selection.

Elements of the RMP explicitly support many of the **MPO's goals** stated in the Mobility 2045 Metropolitan Transportation Plan which was in place when the Regional Thoroughfare and Pedestrian/Bicycle Plan was developed, namely:

- **Accessibility and Mobility** – The plan improves access to goods, jobs, services, housing and other destinations within the region and beyond by defining a cohesive, interconnected, regional transportation system.
- **Travel Options** – By developing a long-range planning document that considers both motorized and non-motorized transportation, the plan defines a transportation system characterized by an interconnected, hierarchical network of roadways and bicycle and pedestrian facilities, thereby promoting transportation alternatives.
- **Economic Vitality** – The plan enhances the economic vitality of the region by efficiently and effectively connecting people to jobs, goods, and services. In addition, a robust regional bicycle network can bring significant economic benefits to the region.
- **Equity** – The plan addresses the future needs in all parts of the region in a balanced fashion, thereby assuring that impacts of transportation projects needed to support the development of the plan do not adversely affect particular communities disproportionately.

- **Transportation and Land Use** – The plan seeks to encourage the development of sustainable land use patterns by providing a grid-like framework around which development can occur, while simultaneously improving access to jobs, services, and housing to everyone in the region.
- **Health** – The plan explicitly encourages transportation investments in bicycle and pedestrian facilities to help promote healthy and active lifestyles.

Specific Pedestrian/Bicycle objectives are identified in the 2018 RMP, included as **Appendix E**. KTMP is following the RMP goals and objectives to ensure identified needs are met for the region.

## **BICYCLE AND PEDESTRIAN NETWORK**

The short distances Americans travel for many of their daily trips make bicycling and walking a highly viable transportation mode. Nearly 40% of all trips are under two miles, a distance easily accomplished by bicycle or on foot by a reasonably physically fit adult or child. In addition, 80% of all trips people take are not for commuting to work, but are for other purposes, many of which do not necessarily demand a car to accomplish. However, while there is potential for many more people to bicycle and walk for transportation, the lack of a safe, direct and usable bicycle and pedestrian network often makes it difficult. Not unlike many regions across the state, and indeed the country, the Killeen-Temple region faces the challenge of a less than complete bicycle/pedestrian network. However, as will be discussed, many of the cities within the region are making significant strides toward improvement.

### **Existing Network**

A bicycle is legally recognized by the State of Texas (and many other states) as a vehicle, with all the rights and responsibilities for roadway use that are also provided to motor vehicles. As such, cyclists can legally ride on any roadway in the region (except controlled access highways such as the Interstate 35 main lanes). However, certain roadways are more “bikeable” than others. Local and collector streets are suitable for use by most adult bicycle riders, as long as traffic volumes are not high and speeds are less than 35 miles per hour. Arterial streets typically carry higher traffic volumes with speeds of 35 to 45 miles per hour, and are used by only the more skilled and assertive bicyclists. With proper education in bicycle operation and safety, many people could safely bicycle on existing roadways, even those without bicycle accommodations. Rural arterials with shoulders and/or very low traffic volumes attract sports cyclists interested in longer-distance travel with fewer interruptions.

The existing pedestrian system is comprised primarily of the roadside sidewalks that are present throughout the region. While many of the older, core urban areas in the region have extensive sidewalk systems, recent patchwork development and a lack of a consistent regional sidewalk development policy has led to many gaps in the sidewalk network. In recent suburban developments, sidewalks are constructed only along the frontage of the development, with the subsequent gaps left to be filled in when the adjacent parcels are developed. While this sidewalk development policy is perhaps cost-effective, it has the unfortunate result of leaving the full potential of walking as a viable transportation option unrealized.

**Exhibit 6.1: Significant Bicycle and Pedestrian Facilities**

KTMPPO has inventoried the existing bicycle and pedestrian data including sidewalks, bicycle routes and lanes, roadways with shoulders, and trails to provide a more complete picture of the state of non-motorized mobility in the region, as shown in Exhibits 6.6 through 6.10. Some significant bicycle and pedestrian facilities as identified in the Regional Thoroughfare and Bicycle/Pedestrian Plan are featured below in Exhibit 6.4.



**Belton** - 1.4 mile long concrete multi-use trail along Nolan Creek



**Temple** - 2.5 mile asphalt multi-use side path along the north side of FM 2305



**Copperas Cove** - 2.1 mile long concrete side path along the north side of FM1113 (Avenue B)



**Temple** - 2.1 mile concrete trail along creek west of 5<sup>th</sup> Street



**Copperas Cove** - 1.6 miles of trails within City Park South



**Temple** - 2.1 mile long concrete multi-use loop trail in Lions Park



**Fort Hood** - Over 40 miles of recreational trails around the base, which includes over 15 miles of trails on the south side of Lake Belton



**Temple** - 1.8 mile long concrete multi-use trail in James Wilson Park



**Fort Hood** - Nearly 13 miles of on-street striped bicycle lanes along Clear Creek Road, Tank Destroyer Boulevard, Hell-On-Wheels Avenue, and Old Ironsides Avenue



**Temple** - 1.3 mile concrete trail along Pepper Creek



**Killeen** - 1.9 mile concrete multi-use trail in the Killeen Community Center Park



**Temple** - 0.6 mile designated bicycle route along Midway Dr

**Exhibit 6.2-6.6: Bicycle and Pedestrian Network (for the KTMPO Region)**

**Insert New Maps**

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## Local Bicycle and Pedestrian-Related Initiatives

Many of the major cities in the region are diligently working to improve conditions for walking and biking. Policy and strategy for developing, accommodating and coordinating alternative transportation modes varies by city. Following is a summary highlighting a few of the larger cities in the MPO region and their respective policies, strategies, and documents that guide development and/or facilitate use of alternative transportation modes within the region. Future projects are identified in the project listing section of the MTP. Future networks are shown in Exhibits 6.11—6.15 and are identified with project numbers as listed in **Appendix C** of the Pedestrian/Bicycle Plan.

### City of Belton:

- Updating 2001 Thoroughfare Plan which will include a requirement for sidewalks, hike and bike trails, and bike lanes along certain roadways.
- Subdivision Ordinance requires sidewalks in accordance with the Thoroughfare Plan. Updated Design Standards will also require the installation of sidewalks in accordance with the Thoroughfare Plan.
- City Parks and Recreation Strategic Master Plan contains a Bike and Trail Plan that is consistent with the KTMPo regional Pedestrian/Bicycle Plan with connections to proposed regional trails.

### City of Copperas Cove:

- Parks Open Space Master Plan updated every 4 years.
- Downtown Master Plan updated every 10 years. Goal is to provide a safer more pedestrian-friendly environment.
- Comprehensive Plan--minor updates every 5 years and major updates every 10 years. Thoroughfare Plan portion includes recommended policies to guide transportation planning efforts, some of which focus on the development of trails and pathways for pedestrians, bicycles, and other non-motorized modes of travel.

### City of Harker Heights:

- Proposing to adopt “Designing Walkable Urban Thoroughfares: A Context Sensitive Approach” as part of the FM 2410 Overlay.

### City of Killeen:

- Comprehensive Plan adopted in 2010 contains detailed Mobility Chapter that addresses:

1) Connectivity and Options; 2) Capacity; 3) Safety; 4) Compatibility; and 5) Coordination and Sustainability.

- Hike and Bike Trails Map adopted in conjunction with the Comprehensive Plan depicts a planned trail network across the city.
- Thoroughfare Map revised in 2010 indicates alignment and classification of existing and proposed roadways.

#### City of Temple:

- Thoroughfare Plan reviewed and updated annually. The Plan identifies street classification according to capacity and is the guiding policy on where additional capacity is needed to mitigate congestion.
- Master Trails Plan is guiding policy on where hike and bike trails will be located and their respective capacity.
- A Bike Route Master Plan has been proposed for the city's guiding policy on creating bike lanes and routes with destinations.
- Street design standards consider bike lanes and stakeholder input from The HOP.

#### Exhibit 6.7: Future Bicycle and Pedestrian Network (ALL KTMPO CITIES 6.7-6.11)

#### Insert New Maps

### SAFETY

It can be hazardous for bicyclists and pedestrians to use the car-dominant transportation system when roadway designs do not adequately consider these modes. Even in locations where a sidewalk or space on the roadway for a bicyclist exists, certain conditions can make public infrastructure basically unusable. Lack of pedestrian crossing indicators or lack of traffic control at free right turns can expose a pedestrian to danger, particularly if that person has no safer alternative to crossing at that location. Extremely long block faces or distances between traffic signals can force pedestrians to make unprotected mid-block crossings.

An analysis using TxDOT's Crash Records Information System (CRIS) for the years 2013-2017 was performed for bicycle and pedestrian-related crashes to identify the safety conditions of current facilities. Exhibit 6.17 and 6.18 presents a summary of the number of crashes per entity, categorized by severity, in the KTMPO planning area.

**Exhibit 6.12: Motor Vehicle and Bicycle and Pedestrian Crashes 2013—2017 (West KTMP Region)**

Insert Bike/Ped Crash Map

**Exhibit 6.13: Motor Vehicle and Bicycle and Pedestrian Crashes 2013—2017 (East KTMP Region)**

Insert Bike/Ped Crash Map

**Americans with Disabilities Act (ADA)**

The Americans with Disabilities Act (ADA) created design guidelines to ensure that transportation facilities are constructed to a set of standards that ensures accessibility for the disabled. Sidewalks are one of the most common pieces of transportation infrastructure, yet if not accessible, they can pose great challenges and danger to anyone in a wheelchair or with crutches.

Public entities such as city governments and transit agencies are required to construct facilities in accordance with ADA standards. These standards apply to all new construction; however, the ADA also requires that public entities retrofit any public facility to these standards to ensure equal access. These requirements include sidewalks and curb ramps which must be retrofitted to meet all current standards. Any non-compliant sidewalks or curb ramps must be upgraded to meet current standards whenever any alterations, such as road surfacing, are carried out. ADA requirements are summarized in **Appendix E**. KTMP will continue to coordinate with the municipalities to keep this inventory updated and promote improvements and expansion of the sidewalk network through the planner roundtable meetings. Gaps in the network system will be evaluated and considered when opportunities for expansion occur.



**Safe Routes to School**

Safe walking and bicycling routes should be established for each elementary and middle school student living within reasonable distance of the school.

Students should have a sidewalk to walk on, rather than be forced to walk in the road. They should have designated street crossing locations, preferably enhanced with crosswalks and crossing aids (e.g., signals, crossing guards, pedestrian refuge islands) to make their crossing safer. School speed zones on roadways around the school that must be crossed are typically established for school entry and exit time periods. Having safe walking and bicycling routes to elementary and middle schools is particularly important for low-income families that may not have a vehicle available to take students to and from school.

Administered by the Texas Department of Transportation, the Safe Routes to School program was a federally funded effort to encourage elementary and middle school students to walk and bicycle to school, for their own physical fitness and health, to ease auto traffic congestion and increase student safety at and near schools, to improve neighborhood conditions and to provide transportation options for families without multiple car ownership.

### **Safe Routes to Transit**

It is critical to provide a network of ADA compliant sidewalks to feed bus stops and transit transfer points so that people can safely access the transit system. Representatives of Hill Country Transit District (the HOP) have stated that “more sidewalks are needed everywhere” in the region. When planning where to add sidewalks, special priority should be given to developing the network feeding key transit routes and bus stops. In addition to the general lack of sidewalks along many routes, hazardous roadway crossings present a significant access barrier and safety issue for citizens. Many multi-lane, high-volume arterials are too wide for some citizens, particularly the elderly, disabled, and children, to cross during a signal timing phase, or traffic control at these intersections favors auto traffic flow rather than pedestrian access and safety.



### Transit Linkages

The ability to link bicycle trips with bus trips provides benefits for both systems—the service area for bus routes may be expanded and the use of bicycles as a travel mode may also grow. Hill Country Transit District has recently installed bicycle racks on each of their fixed route buses; each rack may hold up to two bicycles. Bicycle racks and/or lockers at the bus stops would also be beneficial and would require coordination with municipalities. This is a topic of discussion that will be covered with the planner roundtable meetings.



## FUNDING SOURCES

### Transportation Alternatives Program

As a TMA, KTMPPO receives funding through the Transportation Alternatives Program (TAP), or Category 9. TAP funding was authorized under Section 1122 of Moving Ahead for Progress in the 21st Century Act (MAP-21). FAST Act continues to provide funding through TAP. Programs under TAP include the following:

- Transportation Enhancement Activities;
- Recreational Trails Program; and
- Safe Routes to School Program (SRTS).

As such, the TAP provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities; infrastructure projects for improving non-driver access to public transportation and enhanced mobility; community improvement activities and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways.

TAP funds are administered by the State Department of Transportation (State DOT) and must be used for eligible projects that are submitted by eligible entities and chosen through a competitive process. TAP does not establish minimum standards or procedures for competitive processes but

requires the state or MPO to do so. For urbanized areas with populations over 200,000, the MPO, through a competitive process, is required to select the TAP projects in consultation with the State.

A call for conceptual TAP projects was issued in conjunction with roadway projects for inclusion in the MTP 2040. A total of 30 projects were submitted and are included in the project listing section of the MTP.

In January 2016, a call for projects was issued for FY15-17 TAP funding totaling \$1,151,642. KTMP staff received proposals from the cities of Copperas Cove, Harker Heights, Killeen, Nolanville, Salado and Temple. These entities were provided with an opportunity to present their respective projects to the Technical Advisory Committee. The Technical Advisory Committee (TAC) members, or their proxies, scored each of these proposals at the March 2, 2016 TAC meeting and prepared a recommendation to the Transportation Planning Policy Board. TAC recommended funding the City of Killeen's Heritage Oaks Hike and Bike Trail Segment 3A project and Copperas Cove Ave D Streetscape Phase III project. The amendments to revise the TIP and MTP went through the required public involvement process and funding was officially approved by TPPB at their April 20, 2016 meeting.

During the 2016 Reprioritization, KTMP received 19 projects to compete for TAP funds. These projects went through competitive process and were scored and ranked. During the spring of 2017, KTMP presented possible scenarios that would allocate FY18-20 TAP funds which totaled \$1,170,000. TAC reviewed and provided input on each scenario and made a recommendation to fully fund Copperas Cove The Narrows (RGIII at Old Copperas Cove Rd) project and partially fund Copperas Cove The Narrows (Constitution Dr) with the remaining Category 9 and supplement the remaining with Category 7 funds to TPPB. The proposed amendments went through the required public involvement process and funding was officially approved by TPPB at their June 21, 2018 meeting.

#### **Statewide Transportation Alternatives Set Aside/Transportation Alternative Program:**

The Texas Department of Transportation initiated a statewide competitive "call for projects" for funding under the Statewide TAP Program in 2015. The Texas Transportation Commission reviewed each statewide project and authorized projects for funding for three of these projects in the KTMP region. The three projects include Belton's Chisholm Trail Corridor Hike and Bike Facility Phase II, Killeen's Heritage Oaks Hike and Bike Trail Segment 4, and Old Nolanville Rd Elementary Bicycle and Pedestrian Safety Improvements.

Another "call for projects" for funding under the Statewide Transportation Alternatives Set Aside

Program in 2017 which replaced the Statewide TAP funds. Through this project call, one KTMPPO project was funded. This project was Belton's Hike and Bike Trail Extension South (South Belton Shared Use Path).

**Surface Transportation Program—Metropolitan Mobility:** As a TMA, KTMPPO also receives funding through the Surface Transportation Program Metropolitan Mobility also known as Category 7. These funds can be used for roadway, bike/pedestrian and transit projects. In late 2015, KTMPPO held a "call for projects" for FY15-17 Category 7 funds. KTMPPO staff received 7 proposed projects with 3 projects being solely bike/pedestrian projects. Again, each submitting entity was able to present their respective proposal to the Technical Advisory Committee. TAC then scored each proposal at their December 2, 2015 meeting and provide a recommendation to TPPB to fund all 7 projects which included the 3 bike/pedestrian projects. The 3 bike/pedestrian projects that were selected were Belton's Main St. Sidewalk Expansion, Copperas Cove's Ave D Sidewalk, and Nolanville's Main St. Connectivity projects. The proposed amendments went through the required public involvement process and funding was officially approved by TPPB at their January 20, 2016 meeting.

During the 2016 Reprioritization, KTMPPO received 19 projects to compete for STPMM funds. These projects went through competitive process and were scored and ranked. During the spring of 2017, KTMPPO presented possible scenarios that would allocate FY18-20 TAP funds which totaled \$13,890,000. TAC reviewed and provided input on each scenario and made a recommendation to fund Temple's 31<sup>st</sup> St Sidewalk, Temple's Adams Ave/Central Ave Bicycle/Pedestrian Improvements, Copperas Cove FM 116 & FM 3046 Sidewalks, Killeen's Heritage Oaks Hike Bike Trail Segment 5, Copperas Cove The Narrows (Charles Tillman Way) and Salado's Main St. Sidewalk Phase 1 projects, and the remaining Copperas Cove The Narrows (Constitution Dr) project as described above. These projects total an amount of \$6,835,000. The proposed amendments went through the required public involvement process and funding was officially approved by TPPB at their June 2017 meeting.

## NEXT STEPS—MOVING FORWARD

The 2011 KTMPPO Pedestrian/Bicycle Plan identified recommended actions to promote pedestrian and bicycle improvements throughout the KTMPPO region. The Regional Multimodal Plan will continue to outline actions to promote regional pedestrian and bicycle improvements. These actions are described in detail in **Appendix E**. KTMPPO staff will continue working to implement various portions of this action plan during the next five years. Some elements are already in progress and are identified as such below. In order to facilitate the actions of the bicycle/pedestrian portion of KTMPPO's Regional Multimodal Plan, the Bicycle/Pedestrian Advisory Committee was established in January 2016. This committee consists of representatives of KTMPPO cities and counties, TxDOT, and citizen stakeholders. BPAC provides input and helps KTMPPO to implement the action plan as well as general bicycle and pedestrian issues. Actions that the BPAC has under taking in the Fitness Friendly Business Program, provide feedback on bike/pedestrian infrastructure, vulnerable road user ordinance, and others .KTMPPO plans to continue to utilize BPAC as a way to implement the regional bicycle and pedestrian policies, programs and implementation strategies.

