



Chapter 6: Thoroughfare Plan

CHAPTER HIGHLIGHTS

- Introduction
- Typical Cross Sections by Functional Class
- Funded and Unfunded Projects
- Thoroughfare Plan

Introduction

The concept of Functional Classes for the street network was introduced in Chapter 4, followed by an inventory of the network in Chapter 5. In this Chapter, these two concepts are combined with potential projects for the street network and developed into a future Thoroughfare Plan. This Thoroughfare Plan applies to the street network only, but

typical bicycle and pedestrian facilities are shown in the street cross sections to detail the full right-of-way needs. Additional detail for other transportation modes in the Regional Multimodal System are detailed in other Chapters for each mode.

The purpose of this regional Thoroughfare Plan is to define the future street network so that all potential projects may be displayed and reviewed together, and so that the appropriate right-of-way may be identified



and planned for. A key component of this planning task is to define the Functional Class for each proposed project, and to define a typical cross-section for each Functional Class.

Typical cross sections are intended to illustrate the maximum right-of-way needed for each street Functional Class. It is recognized that the actual cross section needed for any specific project at a given time depends on several factors, including the physical characteristics of the street, traffic volumes, mix of multimodal traffic, safety considerations, local standards and preferences, and funding. Therefore, the cross sections presented in this plan are meant as guidance for the typical conditions, and should be refined as needed for each specific project.

Typical Cross Sections by Street Functional Classification



General design standards for *Controlled Access Functional Class* call for a minimum right-of-way width of 250' for four lanes, with the desirable standard being six lanes and 500'. Design details are determined by TxDOT. Bicycles and pedestrians are prohibited due to the high speeds of these classes of roads, so the design of supporting bicycle and pedestrian infrastructure (including shared use of wide shoulders) is not applicable.

Figure 6-1: Six Lane Controlled Access Facility with Frontage Roads

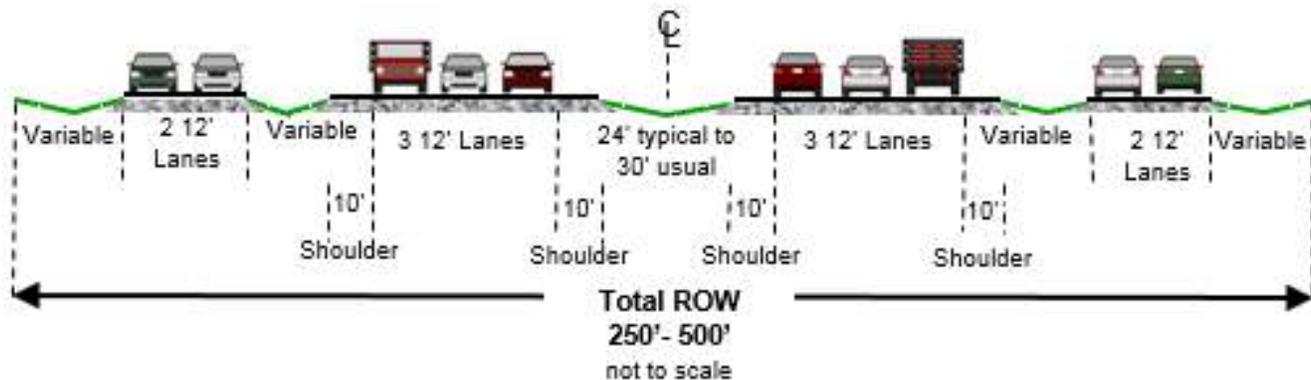
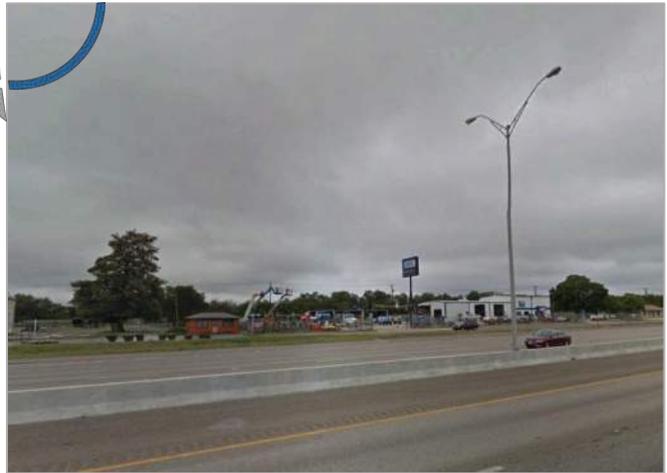


Figure 6-1 shows a typical cross section for a Controlled Access Facility with six lanes. The figure shows a grassy center median with a typical 24' to 30' width, and smaller median areas buffering between the main lanes and the frontage roads. Safety treatments in the medians or road margins such as guardrails and cable barriers are common to prevent vehicle cross-overs, but are not shown in the illustration.



Where a wide grassy median is not desired, a raised concrete median such as a “Jersey barrier” can be installed. **Figure 6-2** shows a Jersey barrier in the median IH-35, with a wide inside shoulder and rumble strip also visible. In this location, the light standards have been installed on the Jersey barrier as a safety measure to protect them from vehicle crashes.

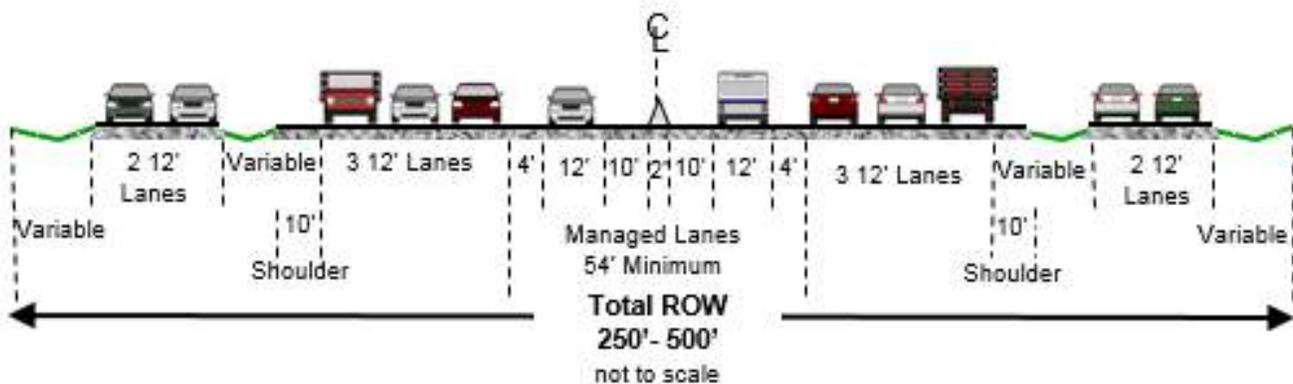
Figure 6-2: Jersey Barrier on IH-35



The use of Jersey barriers on IH 35 at the newly-reconstructed US 190 overpass shows the flexibility that is possible. In that installation, Jersey barriers were placed on either side of the median, about 12’ apart, and the middle section was filled and paved. The middle section serves as the base for light sandards and for sign posts. Jersey barriers also serve as the bases for the retaining walls between the main lanes and the frontage roads, allowing landscaping in those medians.

When toll roads or managed lanes are developed, they are typically placed in the inside lanes of Controlled Access facilities. **Figure 6-3** shows a typical cross section for a six lane Controlled Access facility with frontage roads and with managed lanes. In this design, a 10’ inside shoulder and a 4’ painted median buffer the managed lanes.

Figure 6-3: Six Lane Controlled Access Facility with Frontage Roads and Managed Lanes





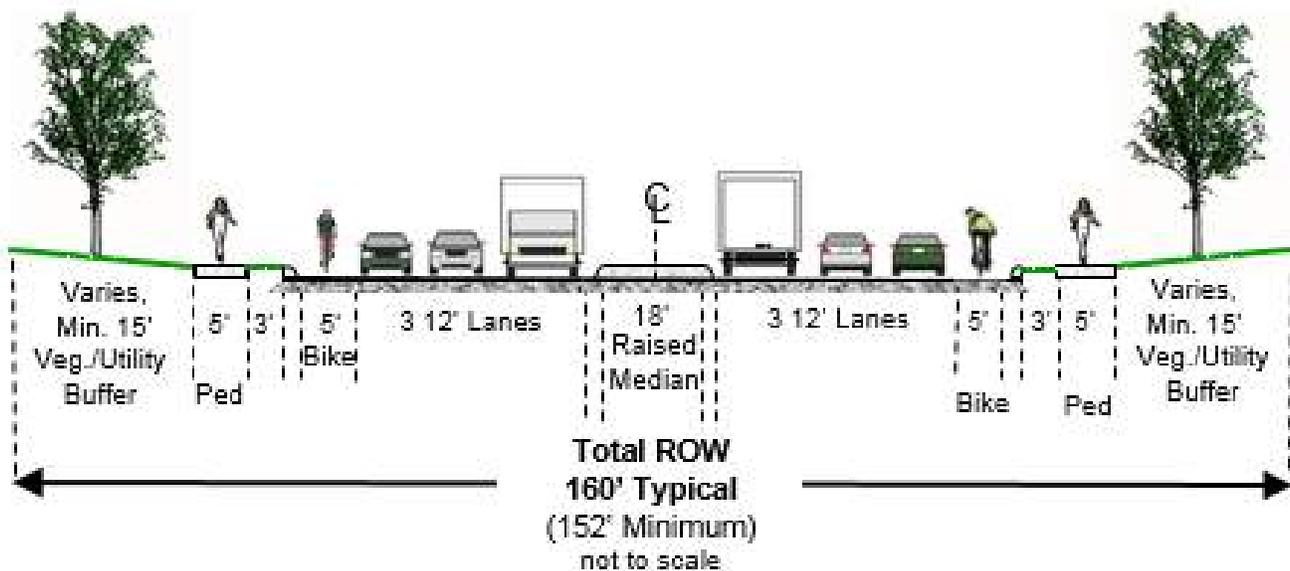
Major Arterial Functional Class general design standards call for a 130' minimum right-of-way for a four lane facility, with 160' desirable for six lanes. A travel lane width of 12' as specified is common for existing Major Arterials in the KTMP region, but Complete Streets and Vision Zero guidance calls for narrowing travel lanes to 11' to slow traffic to speeds that are more safe for all road users.

For divided Major Arterials, a minimum median width of 18" is desirable for a curb or a raised concrete barrier. For landscaped medians, a minimum width of 15' is recommended. Typical practice in the KTMP region has been to install wider grassy medians, with widths of 15' typical for older urban streets such as Ave H in Temple, and 20' to 40' typical for new construction streets in suburban areas such as SH 201 in Killeen and S. 5th Street in Temple.

Bicycle and pedestrian facilities are permitted on Major Arterial and lower Functional Classes. Therefore, the cross sections for typical Major Arterials include sample variations in the different classes of bicycle and pedestrian infrastructure as well as differences in the number of lanes, lane widths, medians, and other road attributes.

Figure 6-4 shows a typical six lane Major Arterial with bicycle and pedestrian accommodations of separated off-street paths or sidewalks and on-street conventional unbuffered bike lanes. This illustration shows a raised median, which is often paved and defined with curbs; other installations may use a landscaped median.

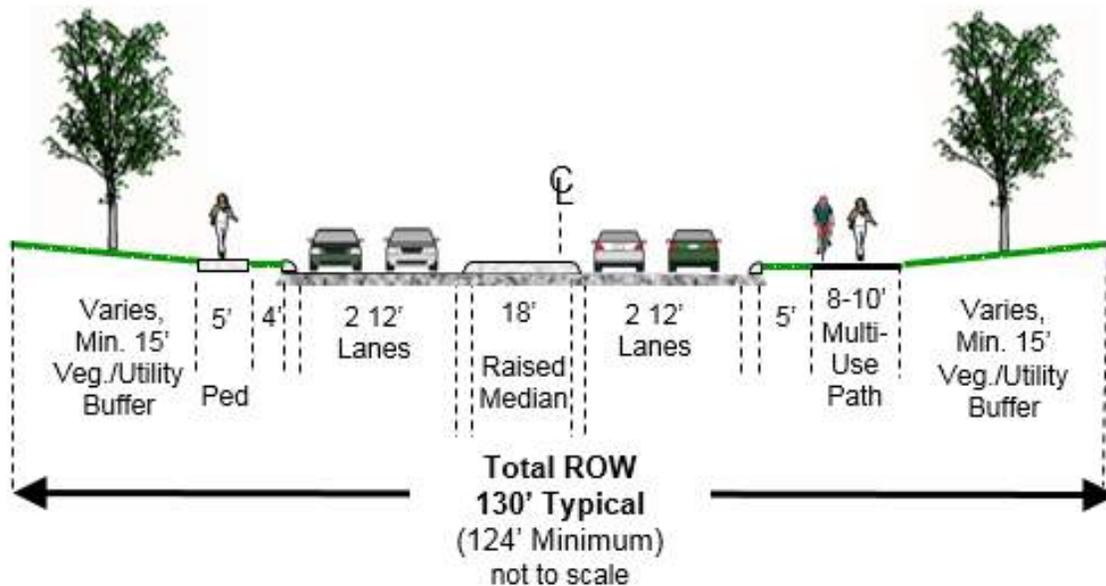
Figure 6-4: Six Lane Major Arterial





A typical cross section for a Major Arterial with four lanes and bicycle and pedestrian accommodations consisting of separated off-street paths or sidewalks and a separated off-street multi-use path is shown in **Figure 6-5**. In this instance there are no distinct on-street bicycle facilities, but this does not affect the bicycle’s status as a vehicle and their right to the road.

Figure 6-5: Four Lane Major Arterial



Minor Arterial Functional Class general design standards call for a minimum right-of-way of 80’ for three lanes, increasing to 110’ for four lanes. The desirable right-of-way is 120’, which will accommodate five lanes.

As with Major Arterials, a travel lane width of 12’ is common in the KTMO region. The Complete Streets and Vision Zero guidance calling for travel lanes of 11’ to slow traffic to speeds that are more safe for all road users is even more pertinent for Minor Arterials, given their position in the access/mobility continuum that has greater emphasis on access and on multimodal uses.

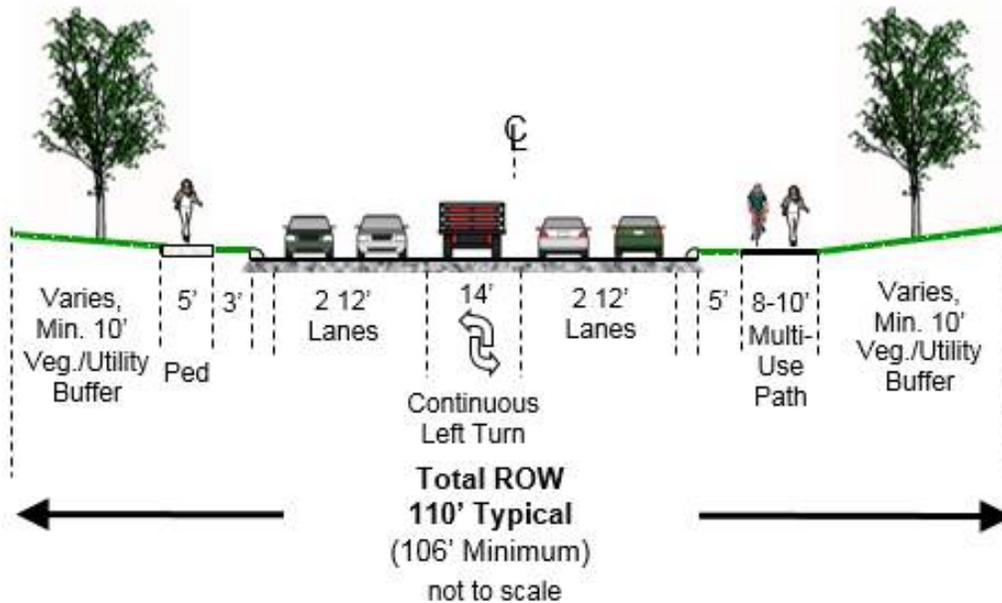
A continuous center turn lane has been recommended as an appropriate median treatment for Minor Arterials, with a desirable width of 16’. Landscaped buffer areas on the edges of a Minor Arterial are recommended with a 10’ width.

Figure 6-6 shows a typical cross section for a four lane Minor Arterial with a continuous center turn lane. Minor Arterials may have greater accommodations for bicycles and pedestrians than Major Arterials, as they typically have lower speeds, lower traffic volumes, and a smaller percentage of trucks in the traffic stream. The figure also shows separated off-street paths or sidewalks and a separated off-street multi-use



path. Although bikes may share the roadway with other vehicles, no special infrastructure is represented in this cross section.

Figure 6-6: Four Lane Minor Arterial with a Continuous Center Turn Lane



More extensive bicycle and pedestrian accommodations are shown in the cross section in **Figure 6-7**. Separated off-street paths or sidewalks and on-street conventional unbuffered bike lanes are shown.

Figure 6-7: Four Lane Minor Arterial with Bike Lanes

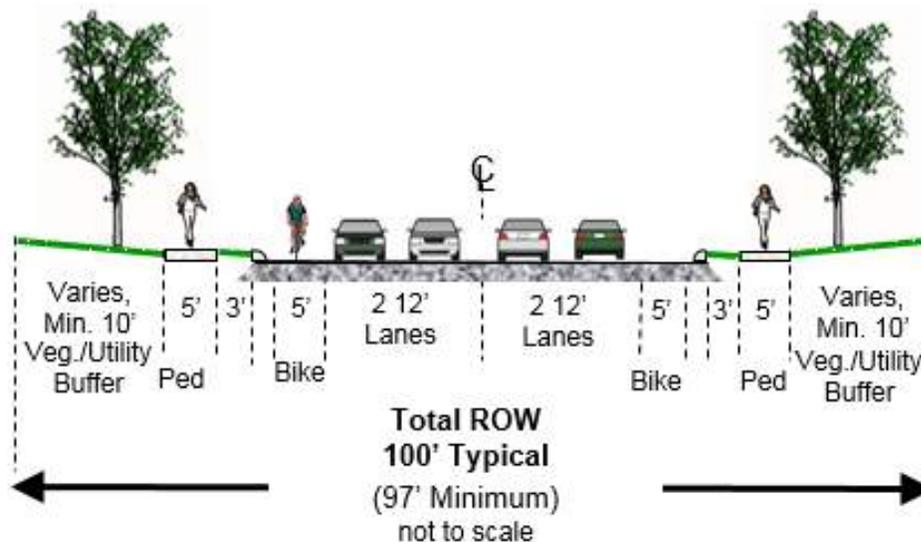
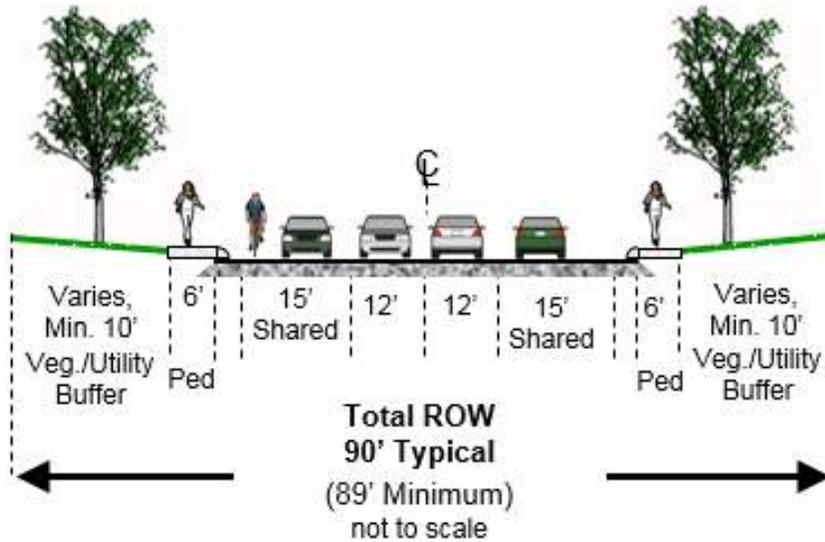




Figure 6-8 shows a typical four-lane Minor Arterial with wide outside lanes, intended to permit autos and bicycles to safely share a lane. The recommended width of the shared lane is 15'. The wider outside lanes should be carefully marked with visual clues to discourage excessive vehicle speeds and preserve street safety for all users. The width of the street can compromise the safety of the pedestrian crossing, but this can be mitigated by the use of median pedestrian refuges and well-marked crosswalks.

Figure 6-8: Four Lane Minor Arterial with Shared Outside Lanes



Collector Functional Class is the Functional Class which is most geared to providing access. With mobility as a less critical attribute, narrower lane widths of 11' are recommended, although widths as narrow as 10' are cited in Complete Streets and Vision Zero guidelines. Shared auto and bicycle outside lanes may be as narrow as 14'. Minimum right-of-way of 60' for two lanes and 70' for three lanes are listed in the guidance. For four lanes, a desirable right-of-way is 80'.

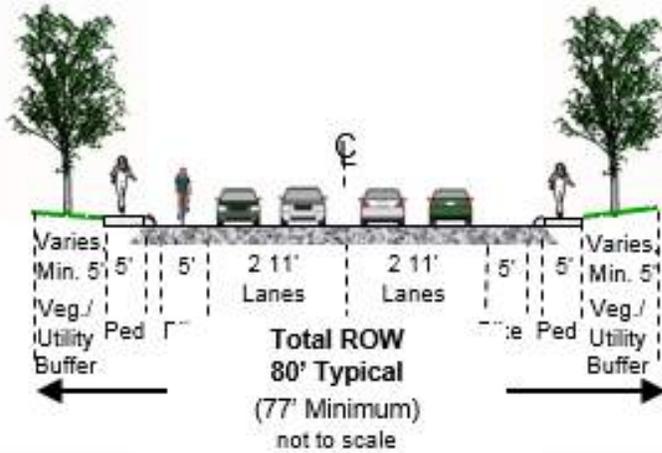
Due to the lower speeds and lower volumes of traffic, continuous center turn lanes on Collector streets may be as narrow as 14'. Medians and buffers should have a minimum width of 5'.

More extensive bicycle and pedestrian treatments should be expected on Collector streets.



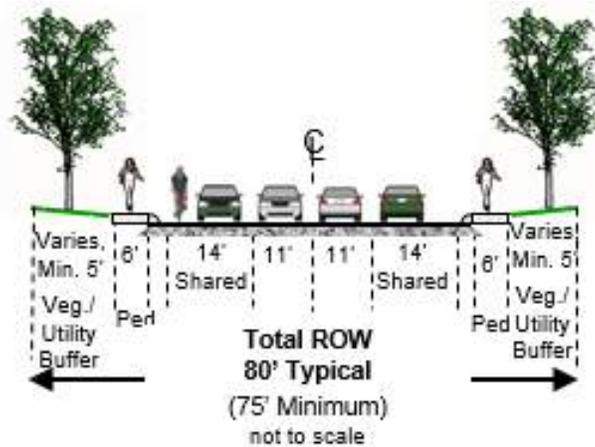
Figure 6-9 through **Figure 6-11** show how different configurations of travel lanes, bike lanes, and parking can fit within an 80' right-of-way. **Figure 6-9** shows a four lane Collector configured with on-street bike lanes and off-street paths or sidewalks.

Figure 6-9: Four Lane Collector with Bike Lanes



In an alternate on-street treatment, **Figure 6-10** does not have discrete bike lanes, but has 11' inside lanes and 14' shared outside lanes. With this configuration, the shared outside lanes would typically be marked with sharrows to emphasize the rights of bicycles to use the lane.

Figure 6-10: Four Lane Collector with Shared Outside Lanes





Also fitting with an 80' right-of-way, **Figure 6-11** has two 12' travel lanes and 8' parking lanes. Pedestrian and bicycle facilities are placed off-street.

Figure 6-11: Two Lane Collector with Parking

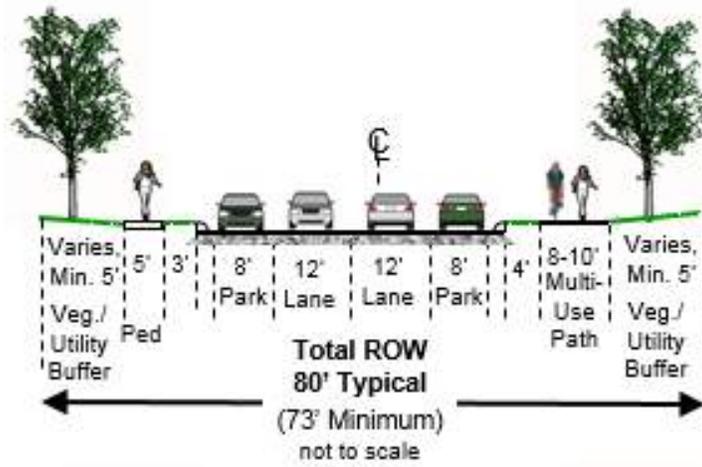
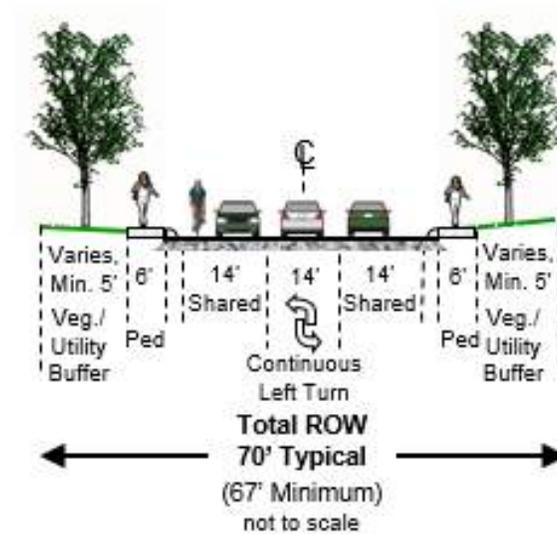


Figure **6-12** illustrates a two lane Collector with shared lanes and a continuous center turn lane. With a width of 14', the shared lanes recommended for Collectors are narrower than the 15' shared lanes recommended for Minor Arterials. This difference is consistent with the lower speeds and traffic volumes which are typically found on Collector streets.

Figure 6-12: Two Lane Collector with a Continuous Center Turn Lane and Shared Lanes





Local Functional Class streets have the lowest speeds and volumes of all the Functional Classes. With these attributes, travel lane widths can consistently be narrower, with 10.5’ recommended as a minimum. Widths as narrow as 10’ are cited in Complete Streets and Vision Zero guidelines.

A right-of-way width of 50’ is recommended for Local streets.

Figure 6-13 shows a typical cross section for a two lane local street. In this illustration, shared lanes of 13.5’ are provided. Narrower travel lane widths may be implemented to reduce traffic speeds to levels that are safe for users of all ages and abilities.

Figure 6-13: Two Lane Local Street with Shared Lanes

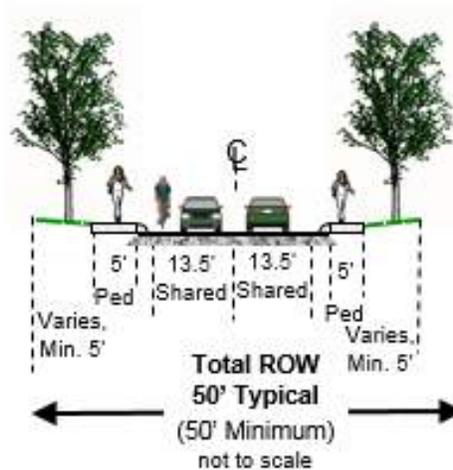


Table 6-1 summarizes the recommendations for right-of-way (ROW) considerations by street Functional Class. Minimum ROW is based on 4 lanes for Major Arterials, 3 lanes (two travel lanes and a center turn lane) for Minor Arterials, and 2 lanes for Collectors and Local streets.

Table 6-1: Summary of ROW Recommendations by Functional Class

Functional Class	Minimum ROW	Preferred ROW	Lane Width	Pavement Width	Median	Outside Buffer	Notes
Controlled Access	250'	Varies, up to 500'	Minimum 12'	Varies	Minimum 36' rural Minimum 10' urban	Varies	Inside shoulder minimum 4' Outside shoulder minimum 10' Vertical clearance minimum 14'
Major Arterial	130'	160'	Preferred 12'	82' to 106'	Preferred 18'	15'	ROW may be greater with parking,
Minor Arterial	80'	120'	Preferred 12'	47' to 75'	Center Turn Lane 14'	10'	bicycle and pedestrian facilities,
Collector	60'	80'	Minimum 11'	31' to 57'	Center Turn Lane 14'	5'	bus stops, and intersection
Local	44'	50'	Minimum 10.5'	23' to 29'	None	5'	treatments



Potential Thoroughfare Projects

The thoroughfare network is developed based on a regional network updated to 2017 conditions, with the addition of potential projects from KTMP and its six member jurisdictions which have their own Thoroughfare Plans. The individual Thoroughfare Plans were introduced in Chapter 2: Planning Context, and include:

- Belton Thoroughfare Plan, embedded within the 2017 Comprehensive Plan.
- Copperas Cove Thoroughfare Plan, embedded within the 2007 Comprehensive Plan.
- Harker Heights Thoroughfare Plan.
- Fort Hood Post-Wide Traffic Engineering and Safety Study
- Killeen Thoroughfare Plan, developed in 2015.
- Temple Thoroughfare Plan, embedded within the 2008 Comprehensive Plan.

The previous KTMP Regional Thoroughfare Plan, which is embedded in the Mobility 2040 Metropolitan Transportation Plan (MTP), also provided potential projects, both as compilations of projects from member jurisdictions and for coverage of other urban and rural areas in the region. A listing of potential projects which are identified by the MTP as funded is provided in **Table 6-2**. **Table 6-3** lists the remaining projects in the region for which funding has not been identified. Additional projects which were sourced from the individual Thoroughfare Plans from KTMP member jurisdictions are listed in **Table 6-4**.



Table 6-2: Potential Thoroughfare Projects Identified as Funded in the 2040 MTP

Project ID	Project	Project Description	Limits From	Limits To	City	Status	Year
W30-17	FM 93	Widen from 2 to 4 lanes	SH 317	Wheat Rd	Belton	Long Range Funded	2030
B40-11	Lake-to-Lake Road (FM 2271)	Construct 4 lane divided roadway	FM 439	US 190	Belton	Long Range Funded	2030
W40-04a	Loop 121 Phase 1	Widen from 2 to 4 lanes with bike/ped improvements	FM 439 (Lake Rd)	IH 35	Belton	August 2017, KTMP selected project	2021
W40-04b	Loop 121 Phase 2	Widen from 2 to 4 lanes with bike/ped improvements	IH 35	FM 436	Belton	Funded for project development	2040
W40-05	US 190	Widen from 4 to 6 lanes with ramp realignments	FM 2410 in W Belton	IH 35	Belton	Short Range Funded Prop 1	2040
C30-03b	Business US 190 Phase I	Construct a median and repurpose lanes	FM 1113 (Avenue D)	Constitution Dr	Copperas Cove	Short Range Funded	2020
G03-MT	FM 116	Construct a left turn lane	Cactus Lane	House Creek Bridge	Copperas Cove	Grouped Projects	2018
W35-01	US 190 Bypass	Phase 2 - Construct final 2 lanes of ultimate 4 lane divided highway	East of Copperas Cove	.5 mi W of Lampasas County Line	Copperas Cove	Short Range Funded	2035
H15-02b	FM 2410	Widen from 2 to 4 lanes with sidewalks, median and turn lanes	Harker Heights City Limit	US 190	Harker Heights	Short Range Funded Prop 1	2018
H40-02	Heights Drive Roundabout	Construct traffic circle	Commercial Dr.	Heights Dr.	Harker Heights	Funded MPO CAT 7	2018
W40-02	US 190	Widen from 4 to 6 lanes with bridge improvements	1 mi W of FM 2410	FM 3423 (Indian Trail)	Harker Heights	Short Range Funded Prop 1	2018
G03-MT	SH 95	Widen and add passing lanes	FM 436	Holland City Limits	Holland	Grouped Projects	2018
K30-02	Rosewood Dr Extension	New construction 4 lane road	Riverstone Dr	Chaparral Rd	Killeen	Funded MPO CAT 7	2018
K35-03	W. Trimmier Rd	Widen and add continuous left turn lanes	Jasper Dr	Elms Rd	Killeen	Funded MPO CAT 7	2017
W40-06	US 190	Widen from 4 to 6 lanes with ramp realignments	FM 3423 (Indian Trail)	FM 2410 in W Belton	Nolanville	August 2017, KTMP selected project	2019
H30-05	Warriors Path	New construction 2 lane road	Knights Way/FM 2410	Old Nolanville Rd	Nolanville	Long Range Funded	2030
S40-04b	Main St Sidewalks Phase 2	Widen and add bike paths, with drainage improvements	College Hill Dr	Salado Plaza Dr	Salado	Funded for project development	2040
T40-07	Outer Loop 3b	Widen from 2 to 4 lanes with hike & bike trail	South of FM 2305	S of Jupiter Drive	Temple	Long Range Funded	2040
T35-24	Realign Prairie View Road	Realign FM 2483 and Prairie View Road	West of SH317	N. Pea Ridge	Temple	Funded MPO CAT 7	2018
G03-MT	SH 317	Widen and add shoulders and passing lanes	McLennan Co Line	SH 36	Temple	Grouped Projects	2018
W40-01	SH 317	Widen from 2 to 4 lanes with a raised median	FM 2305	FM 439	Temple	Short Range Funded Prop 1	2018
G01-PE	Spur 290 / S. 1st St.	Roadway operational and landscape improvements	Avenue O	0.2 mi S of Avenue U	Temple	Grouped Projects	2017

Table 6-3: Potential Thoroughfare Projects Identified as Unfunded in the 2040 MTP (part 1)

Project ID	Project	Project Description	Limits From	Limits To	City	Status
B30-03	Belton Outer Loop East	Construct 2 lane road with shoulder and 10' hike/bike trail	IH 35 at Shanklin	IH 35 at Shanklin	Belton	Unfunded
B40-07	Connell Street	Widen from 2 to 4 lanes with center turn lane and 5' wide sidewalks	US 190	Loop 121	Belton	Unfunded
B40-10	FM 1670	Widen from 2 to 4 lanes with a 10' hike and bike trail	US 190	Three Creeks Boulevard	Belton	Unfunded
B30-01	George Wilson Extension	Construct 2 lane road with shoulder	FM 93 at George Wilson Road	FM 439	Belton	Unfunded
B40-01	Huey Drive	Construct 2 lane road with center turn lane	Washington Drive	IH 35 Frontage Rd	Belton	Unfunded
T15-06k	IH 35	Widen to 8 lanes	South Loop 363	US 190	Belton	Unfunded
B30-02	Shanklin Road West, Outer Loop	Construct 4 lane road with 10' hike/bike trail	IH 35	Existing roundabout	Belton	Unfunded
B40-02	Southwest Parkway	Construct 2 lane road with center turn lane	Loop 121	W Avenue O	Belton	Unfunded
B40-08	Sparta Rd	Construct protected turn lane with 10' ft wide hike/bike trail	Loop 121	Dunn's Canyon Rd	Belton	Unfunded
B40-09	West Avenue D	Construct 2 lane road with sidewalks and bike lanes	Loop 121	Wheat Rd	Belton	Unfunded
C25-03	Big Divide Loop	Widen from 2 to 4 lanes with raised median	US 190	FM 1113	Copperas Cove	Unfunded
C30-03a	Business US 190 Phase II	Road diet with bike/ped accommodations	FM 116 S @ Business US 190	Avenue D	Copperas Cove	Unfunded
C25-02	FM 1113	Widen from 2 to 4 lanes with sidewalks	Signal Light at FM 116/Ave B	Summers Road	Copperas Cove	Unfunded
C35-02a	FM 116 Railroad Underpass	Create a 2 lane railroad underpass with 10' sidewalks	S. Main	Ave. B	Copperas Cove	Unfunded
C40-01	FM 116 South	Widen and upgrade to Farm to Market status	Copperas Cove City Limits	SH 201	Copperas Cove	Unfunded
C25-04	Northside Loop	Widen from 2 to 4 lanes with raised median	FM 1113	FM 116	Copperas Cove	Unfunded
H30-03	FM 3219	Widen from 2 lane to 4 lanes with 6' sidewalks	Veterans Memorial Blvd	FM 439	Harker Heights	Unfunded
H15-01	FM 3423/Indian Trail	New construction road with pedestrian enhancements	Veterans Memorial Blvd	US 190	Harker Heights	Unfunded
H30-07	FM 3481	Widen from 2 to 4 lanes	Prospector Dr	FM 2484	Harker Heights	Unfunded
W35-04	FM 439	Widen from 4 to 6 lanes	Roy Reynolds Dr	FM 3219	Harker Heights	Unfunded



Table 6-3: Potential Thoroughfare Projects Identified as Unfunded in the 2040 MTP (part 2)

Project ID	Project	Project Description	Limits From	Limits To	City	Status
K30-13	Chaparral Rd	Widen from 2 to 4 lanes with center turn lane	SH 195	FM 3481	Killeen	Unfunded
K40-26	Cunningham Rd	Widen from 2 to 4 lanes with hike/bike trail	US 190	FM 3470	Killeen	Unfunded
K40-16	East Trimmier Road Improvements	Widen from 2 to 4 lanes with center turn lane	Stagecoach Rd	Chaparral Rd	Killeen	Unfunded
K40-24	Featherline Drive	Widen from 2 to 4 lanes with center turn lane and roundabouts	Stagecoach Rd	Chaparral Rd	Killeen	Unfunded
K25-05	Florence Rd	Widen from 2 to 5 lanes	Elms Road	Jasper Drive	Killeen	Unfunded
K40-03	FM 3470 (Stan Schlueter Loop)	Construct 4 lane FM Road with continuous turn lane and shoulders	SH 201	US 190 Bypass	Killeen	Unfunded
W35-03	SH 195	Reconstruct to 4 lane freeway with frontage roads	FM 3470	Chaparral Rd	Killeen	Unfunded
K40-17	Trimmier Road Improvements	Widen from 2 to 4 lanes with center turn lane	Stagecoach Rd	Chaparral Rd	Killeen	Unfunded
K40-11	WS Young	Add turn lane and operational improvements	Mall Dr	AJ Hall Blvd	Killeen	Unfunded
H40-04	E FM 2410	Widen from 2 to 4 lanes with access management	.16 mi west of Indian Trail	Simmons Rd	Nolanville	Unfunded
N40-03	Old Nolanville Road	Widen bridge and construct multi-use trail	Warriors Path	US 190	Nolanville	Unfunded
N40-07	Warrior's Path Extension Phase 1	Construct 2 lane road with shoulder	Old Nolanville Rd	US 190	Nolanville	Unfunded
N40-08	Warrior's Path Extension Phase 2	Construct 2 lane road with shoulder	US 190	FM 439	Nolanville	Unfunded
W35-12	US 190	Widen to 4 lane divided rural highway	2 mi south of FM 436	Milam County Line	Rogers	Unfunded
W30-13	FM 2484	Widen from 2 to 4 lanes	FM 1670	IH 35	Salado	Unfunded
S40-03	Salado West Village Road	Widen road, add turn lanes and bike/ped facilities	Thomas Arnold Rd	IH 35	Salado	Unfunded
T35-36a	1st Street	Widen from undivided to divided road with hike/bike trails	SE Loop 363	Avenue M	Temple	Unfunded
W35-08	FM 93	Widen from 2 to 4 lanes with railroad grade separation	FM 1741 (S 31st)	SH 95	Temple	Unfunded
W35-09	FM 93	Widen from 2 to 4 lanes with a raised median	SH 95	SH 36	Temple	Unfunded
T40-04	Hogan Road	Widen from 2 to 3 lanes with sidewalks and hike/bike trail	SH 317	S Pea Ridge Rd	Temple	Unfunded
T15-02	Kegley Road (Phase 2)	Widen road, add turn lanes and bike/ped facilities	856 ft S of FM 2305	450' S of Wildflower Lane	Temple	Unfunded
W30-23	Loop 363	Reconstruct to 4 lane freeway with continuous frontage roads	SP 290	SH 95	Temple	Unfunded
W35-07	NW Loop 363	Reconstruct to 4 lane freeway	Lucious McCelvey Dr	Industrial Blvd	Temple	Unfunded
T40-10	Outer Loop	Extend divided road, with hike/bike trail	Floodplain	IH 35	Temple	Unfunded
T25-09	Outer Loop / Research Parkway	Widen from 2 to 4 lanes with hike/bike trail	IH 35	Central Pointe Pkwy	Temple	Unfunded
T40-09	Outer Loop 4	Widen from 2 to 4 lanes with hike/bike trail	S of Jupiter	Floodplain	Temple	Unfunded
W25-02	SH 36	Widen from 2 to 4 lanes	SH 317	Lake Belton Bridge	Temple	Unfunded
T25-06	SL 363	Construct at grade Interchange at US 190 and Spur 290	SP 290	SP 290	Temple	Unfunded
T40-05	Westfield Blvd (Phase 2)	New construction 4 lane road with sidewalk and hike/bike trail	Prairie View Rd	Airport Rd/SH 36	Temple	Unfunded
D40-01	North Waco Rd. (Old 81)	Widen from 2 to 4 lanes with bridge improvements.	West Main St	West Big Elm	Troy	Unfunded
D40-03	Old 81 South	Widen from 2 to 4 lanes with bike lanes	FM 1237	Loves Overpass	Troy	Unfunded
K40-06	FM 2484	Widen from 2 to 4 lanes divided	SH 195	IH 35	Youngsfort	Unfunded



Table 6-4: Potential Projects Identified in Local Thoroughfare Plans (part 1)

Project ID	Project	Project Description	Limits From	Limits To	City	Status
NewB 16	190 Ln	Extend & connect existing roads	190 Ln	Mesquite Ln extension	Belton	Unfunded
NewB 11	22nd Ave	Construct new road	Hilltop St	S Pea Ridge Rd	Belton	Unfunded
NewB 18	2nd St	Construct new road	Mesquite Ln extension	Loop 121	Belton	Unfunded
NewB 19	2nd St	Construct new road	Shanklin Rd	0.6 mi S	Belton	Unfunded
NewB 35	Armstrong Rd	Extend, realign, & connect existing roads	Armstrong Rd	FM 1123	Belton	Unfunded
NewB 26	Belton Outer Loop East	Construct new road	IH 35 S	IH 35 N	Belton	Unfunded
NewB 24	Capital Way	Construct new road	Elm Grove Spur	Mesquite Ln extension	Belton	Unfunded
NewB 2	DIGBY DR	Extend & connect existing roads	S Wheat Rd	George Wilson Rd	Belton	Unfunded
NewB 33	Dillard Rd	Construct new road	Amity School Rd	Smith Dairy Rd	Belton	Unfunded
NewB 34	E Amity Rd	Construct new road	Heritabe Ln	Armstrong Rd	Belton	Unfunded
NewB 23	Elm Grove Rd	Realign existing road	Elm Grove Spur	Shady Grove Ln	Belton	Unfunded
NewB 28	Elm Grove Rd	Construct new road	FM 436	IH 35	Belton	Unfunded
NewB 36	Elm Grove Rd	Extend existing road	Elmer King Rd	E Amity Rd	Belton	Unfunded
NewB 37	Elmer King Rd	Construct new road	Elm Grove Rd	Armstrong Rd realignment	Belton	Unfunded
NewB 14	Kegley Rd	Upgrade existing road	Tem Bel Ln	IH 35	Belton	Unfunded
NewB 27	Laila Ln	Construct new road	Loop 121	IH 35	Belton	Unfunded
NewB 17	Mesquite Ln	Extend & connect existing roads	Mesquite Ln	190 Ln extension	Belton	Unfunded
NewB 25	Mesquite Ln	Extend existing road	IH 35	Elm Grove Rd	Belton	Unfunded
NewB 20	New road	Construct new road	2nd St extension	IH 35	Belton	Unfunded
NewB 21	New road	Construct new road	IH 35	Elm Grove Rd	Belton	Unfunded
NewB 29	New road	Construct new road	IH 35 at E Ave K	FM 93	Belton	Unfunded
NewB 3	New road	Construct new road	N Wheat Rd	FM 93	Belton	Unfunded
NewB 31	New road	Construct new road	FM 93	S 5th St	Belton	Unfunded
NewB 4	New road	Construct new road	West Avenue D	Powell Dr	Belton	Unfunded
NewB 6	New road	Construct new road	George Wilson Rd extension	Spring Canyon Rd	Belton	Unfunded
NewB 8	New road	Construct new road	Sparta Rd	N Wheat Rd extension	Belton	Unfunded
NewB 12	Park Ave	Extend existing road	Park Ave	Guthrie Dr	Belton	Unfunded
NewB 13	Poison Oak Rd	Construct new road	N Main St	Kegley Rd	Belton	Unfunded
NewB 15	Rocking M Ln	Construct new road	Rocking M Ln	Outer Loop	Belton	Unfunded
NewB 22	Sand and Gravel Ln	Extend existing road	Sand and Gravel Ln	Elm Grove Rd	Belton	Unfunded
NewB 1	Simmons Rd	Extend existing road	US 190	FM 93	Belton	Unfunded
NewB 30	Spanish Oak Rd	Extend existing road	Stratford Dr	FM 93	Belton	Unfunded
NewB 5	Spring Canyon Rd	Construct new road	US 190	FM 439	Belton	Unfunded
NewB 32	Tahuaya Rd	Construct new road	Smith Dairy Ln	FM 1670	Belton	Unfunded
NewB 10	W 9th Ave	Construct new road	N Main St	N Beal St	Belton	Unfunded
NewB 9	W 9th Ave	Construct new road	University Dr	Loop 121	Belton	Unfunded
NewB 38	West Village Rd	Construct new road	Williams Rd	FM 1670	Belton	Unfunded
NewB 39	Williams Rd	Realign existing road	W of West Village Rd	IH 35	Belton	Unfunded
NewB 40	Williams Rd	Construct new road	Williams Rd	0.4 mi S	Belton	Unfunded
NewB 7	Yturria Rd	Construct new road	Spring Canyon Rd	Dunns Canyon Rd	Belton	Unfunded



Table 6-4: Potential Projects Identified in Local Thoroughfare Plans (part 2)

Project ID	Project	Project Description	Limits From	Limits To	City	Status
NewCC 21	Arista Rueda Rd	Extend existing road	FM 2808	Herradura Calzada Rd	Copperas Cove	Unfunded
NewCC 4	Ashley Rd	Upgrade and extend existing road	FM 116	Big Divide Rd	Copperas Cove	Unfunded
NewCC 11	Big Divide Rd	Extend existing road	Grimes Crossing Rd	Outer Loop	Copperas Cove	Unfunded
NewCC 16	Big Divide Rd	Extend existing road	US 190	FM 2808	Copperas Cove	Unfunded
NewCC 13	Courtney Ln	Extend & connect existing roads	W Ave B	Oak Hill Dr	Copperas Cove	Unfunded
NewCC 5	Coy Dr	Construct new road	Ashley Rd	Lutheran Church Rd	Copperas Cove	Unfunded
NewCC 14	CR 24	Construct new road	CR 3340	Big Divide Rd	Copperas Cove	Unfunded
NewCC 8	CR 24	Re-align intersection	CR 3300	N of CR 3300	Copperas Cove	Unfunded
NewCC 7	CR 3300	Re-align intersection	W of CR 24	E of CR 24	Copperas Cove	Unfunded
NewCC 9	CR 3340	Extend & connect existing roads	CR 314	FM 1113	Copperas Cove	Unfunded
NewCC 18	Edward Dr	Extend & connect existing roads	Edward Dr	Big Divide Rd	Copperas Cove	Unfunded
NewCC 22	FM 2808	Extend existing road	FM 2657	US 190	Copperas Cove	Unfunded
NewCC 23	FM 2808	Extend existing road	Risen Star Ln	US 190	Copperas Cove	Unfunded
NewCC 19	FM 3046	Extend existing road	FM 3046	US 190	Copperas Cove	Unfunded
NewCC 17	FM 3046/Pony Express Ln	Extend existing road	FM 3046	US 190	Copperas Cove	Unfunded
NewCC 1	Glass Rd	Extend existing road	Kubitz Rd	FM 116	Copperas Cove	Unfunded
NewCC 2	New Collector	Construct new road	Lutheran Church Rd	Glass Rd	Copperas Cove	Unfunded
NewCC 27	New Collector	Construct new road	FM 3046	FM 2808	Copperas Cove	Unfunded
NewCC 24	Northern Dancer Dr	Extend existing road	Joe Morse Dr	FM 2808	Copperas Cove	Unfunded
NewCC 25	Northern Dancer Dr	Extend existing road	Joe Morse Dr	FM 2808	Copperas Cove	Unfunded
NewCC 26	Ogletree Pass	Extend existing road	Ogletree Pass	US 190	Copperas Cove	Unfunded
NewCC 3	Outer Loop	Construct new road	Lutheran Church Rd	FM 1113	Copperas Cove	Unfunded
NewCC 6	Outer Loop	Construct new road	US 190	FM 1113	Copperas Cove	Unfunded
NewCC 20	Sikes Dr	Extend existing road	FM 2808	FM 3046	Copperas Cove	Unfunded
NewCC 12	Skyline Dr	Extend existing road	Skyline Dr	Bradford Dr	Copperas Cove	Unfunded
NewCC 15	Winchester Ln	Extend existing road	Winchester Ln	Big Divide Rd	Copperas Cove	Unfunded
NewHH 4	Deer Trail	Extend existing road	Cattail Cir	Vineyard Trl	Harker Heights	Unfunded
NewHH 6	Douglas Fir Dr	Extend & connect existing road	Hazelnut Dr	Mesa Oaks Cir	Harker Heights	Unfunded
NewHH 7	Hazelnut Dr	Construct new road	Douglas Fir Dr N	Douglas Fir Dr S	Harker Heights	Unfunded
NewHH 2	New road	Extend existing road	Deer Trail extension	Rosewood Dr	Harker Heights	Unfunded
NewHH 8	New road	Construct new road	Hazelnut Dr	Comanche Gap Rd	Harker Heights	Unfunded
NewHH 3	Prospector Trl	Extend existing road	Cedar Knob Rd	Stillhouse Lake Rd	Harker Heights	Unfunded
NewHH 1	Scarlet Ln	Extend existing road	Brooke Ln	Rosewood Dr	Harker Heights	Unfunded
NewHH 9	Shoreline Dr	Extend & connect existing road	Lakeview Dr	Rummel Rd	Harker Heights	Unfunded
NewHH 5	Waco Trce	Construct new road	Osage Trce	Warriors Path	Harker Heights	Unfunded



Table 6-4: Potential Projects Identified in Local Thoroughfare Plans (part 3)

Project ID	Project	Project Description	Limits From	Limits To	City	Status
NewK 30	Atkinson Ave	Extend existing road	N 52nd St	N Twin Creek Dr	Killeen	Unfunded
NewK 7	Atlas Ave	Extend existing road	Fort Hood St	W of Trimmier Rd	Killeen	Unfunded
NewK 27	Barrington Trl	Extend existing road	Jim Ave	Elms Rd	Killeen	Unfunded
NewK 28	Black Orchid Dr	Extend existing road	Autumn Valley Dr	Watercrest Rd	Killeen	Unfunded
NewK 9	Bridgewood Dr	Construct new road	Tumut Ln	SH 201	Killeen	Unfunded
NewK 2	Chaparral Rd	Extend existing road	Chaparral Rd	Maxdale Rd	Killeen	Unfunded
NewK 1	FM 116 South	Extend existing road	SH 201	Maxdale Rd	Killeen	Unfunded
NewK 11	Founders Trail	Extend existing road	John Helen Dr	SH 201	Killeen	Unfunded
NewK 14	Love Rd	Extend and connect existing roads	Onion Rd	Riley Dr	Killeen	Unfunded
NewK 6	Mohawk Dr	Extend existing road	E of Clear Creek Rd	Fort Hood St	Killeen	Unfunded
NewK 29	N 60th St	Extend existing road	Lake Rd	E Rancier Ave	Killeen	Unfunded
NewK 26	New Bacon Ranch Rd	Extend existing road	New Bacon Ranch Rd	Cunningham Rd extension	Killeen	Unfunded
NewK 4	New FM	Construct new road	SH 195	FM 2843	Killeen	Unfunded
NewK 10	New road	Construct new road	Bunny Trl	Founders Trl extension	Killeen	Unfunded
NewK 12	New road	Construct new road	Atlas Ave extension	Stagecoach Dr	Killeen	Unfunded
NewK 16	New Road	Construct new road	SH 195	Featherline Rd	Killeen	Unfunded
NewK 17	New Road	Extend existing road	SH 195	Onion Rd Extension	Killeen	Unfunded
NewK 18	New Road	Construct new road	Onion Rd Extension	Platinum Dr Extension	Killeen	Unfunded
NewK 21	New Road	Construct new road	Stagecoach Rd	New Road	Killeen	Unfunded
NewK 22	New Road	Construct new road	New Road	New Road	Killeen	Unfunded
NewK 3	New Road	Construct new road	Oakalla Rd	SH 195	Killeen	Unfunded
NewK 31	New road	Construct new road	Roy J Smith Dr extension	FM 439	Killeen	Unfunded
NewK 8	New road	Construct new road	Clear Creek Rd	Bridgewood Dr extension	Killeen	Unfunded
NewK 13	Nichols Dr	Construct new road	Nichols Dr	Stan Schleuter Loop	Killeen	Unfunded
NewK 23	Onion Rd	Extend existing road	Stagecoach Rd	Chaparral Rd	Killeen	Unfunded
NewK 24	Platinum Dr	Extend existing road	Platinum Dr	Chaparral Rd	Killeen	Unfunded
NewK 32	Roy J Smith Dr	Extend existing road	N Roy Reynolds Dr	0.6 mi east	Killeen	Unfunded
NewK 5	Trimmier Rd	Extend existing road	Chaparral Rd	New FM	Killeen	Unfunded



Table 6-4: Potential Projects Identified in Local Thoroughfare Plans (part 4)

Project ID	Project	Project Description	Limits From	Limits To	City	Status
NewT 22	1st Street	Extend & realign existing road	SE Loop 363	S 5th St	Temple	Unfunded
NewT 16	Apple Cider Rd	Construct new road	Middle Rd	SH 53	Temple	Unfunded
NewT 33	Asa Rd	Construct new road	Cedar Creek Rd	Willow Grove Rd extension	Temple	Unfunded
NewT 15	Berger Rd	Upgrade existing road	Elm Rd	FM 438	Temple	Unfunded
NewT 21	Blackland Rd	Extend & realign existing road	Little River Rd	Barnhardt Rd	Temple	Unfunded
NewT 12	Bottoms East Rd	Extend and connect existing roads	IH 35	Lower Troy Rd	Temple	Unfunded
NewT 13	Bottoms East Rd	Extend and connect existing roads	Bottoms Rd	Arthur Cemetery Rd	Temple	Unfunded
NewT 14	Bottoms Rd	Extend and connect existing roads	Bottoms East Rd	FM 438	Temple	Unfunded
NewT 40	Brewster Rd	Extend existing road	Luther Curtis Rd	Shine Branch Rd	Temple	Unfunded
NewT 32	Cedar Creek Rd	Upgrade existing road	SH 317	Asa Rd	Temple	Unfunded
NewT 9	Enterprise Rd	Extend existing road	NW HK Dodgen Loop	Eberhardt Rd	Temple	Unfunded
NewT 28	FM 2483	Extend & realign existing road	Westfield Blvd	Old Howard Rd	Temple	Unfunded
NewT 11	Gun Club Rd	Construct new road	Cottonwood Creek Rd	Berger Rd	Temple	Unfunded
NewT 7	Hopi Trl	Extend existing road	Keller Rd	IH 35	Temple	Unfunded
NewT 18	Lorraine Ave	Construct new road	SE HK Dodgen Loop	Outer Loop	Temple	Unfunded
NewT 2	Lower Troy Rd	Extend existing road	Zenith Ave	E Adams Ave	Temple	Unfunded
NewT 41	Luther Curtis Rd	Extend & connect existing roads	FM 2409	Community Center Ln	Temple	Unfunded
NewT 42	Luther Curtis Rd	Extend & connect existing roads	Willow Grove Rd	Guyton Rd	Temple	Unfunded
NewT 43	Luther Curtis Rd	Extend & connect existing roads	W of Vaughn Rd	Vaughn Rd	Temple	Unfunded
NewT 44	Luther Curtis Rd	Extend & connect existing roads	Franklin Rd	Pendleton Troy Loop	Temple	Unfunded
NewT 34	Mouser Rd	Upgrade existing road	Willow Grove Rd extension	Moores Mill Rd	Temple	Unfunded
NewT 25	N Pea Ridge Rd	Extend & connect existing roads	Prairie View Rd	W Adams Ave	Temple	Unfunded
NewT 30	N Pea Ridge Rd	Construct new road	Airport Rd	FM 2483	Temple	Unfunded
NewT 27	New road	Construct new road	SH 317	Old Howard Rd	Temple	Unfunded
NewT 29	New road	Construct new road	SH 317	Westfield Blvd	Temple	Unfunded
NewT 35	New road	Construct new road	Moores Mill Rd	McLane Pkwy	Temple	Unfunded
NewT 46	New road	Construct new road	FM 2483	W Adams Ave	Temple	Unfunded
NewT 10	Outer Loop	Construct new road	IH 35	SH 53	Temple	Unfunded
NewT 17	Outer Loop	Construct new road	SH 53	FM 93	Temple	Unfunded
NewT 3	Private Dr	Construct new road	Young Ave	HK Dodgen Loop	Temple	Unfunded
NewT 20	Red Barn Ln	Extend & connect existing roads	S of SH 53	N of FM 3117	Temple	Unfunded
NewT 5	S 17th St	Construct new road	W Ave T	Arrangement Way	Temple	Unfunded
NewT 26	S Pea Ridge Rd	Extend & connect existing roads	Tarver Dr	Hogan Rd	Temple	Unfunded
NewT 37	Shine Branch Rd	Realign & connect existing roads	Willow Grove Rd	W of Willow Grove Rd	Temple	Unfunded
NewT 45	Shine Branch Rd	Extend & connect existing roads	SH 317	FM 2409	Temple	Unfunded
NewT 23	Tarver Dr	Extend & realign existing road	Coastal Dr	Kegley Rd	Temple	Unfunded
NewT 19	Tower Rd	Extend existing road	Payne Ln	Apple Cider Rd	Temple	Unfunded
NewT 6	Tower Rd	Extend existing road	MLK Dr	SE HK Dodgen Loop	Temple	Unfunded
NewT 38	Vaughan Rd	Extend existing road	Pendleton Troy Rd	1237 Spur	Temple	Unfunded
NewT 39	Vaughan Rd	Realign & connect existing roads	FM 1237	Old Howard Rd	Temple	Unfunded
NewT 4	W Ave U	Construct new road	S 11th St	Scott & White Blvd	Temple	Unfunded
NewT 36	Wendland Rd	Upgrade existing road	NW HK Dodgen Loop	Wilsonart Dr	Temple	Unfunded
NewT 8	Wendland Rd	Extend existing road	Industrial Blvd	W Nugent Ave	Temple	Unfunded
NewT 24	Westfield Rd	Extend & connect existing roads	W Adams Ave	Tarver Dr	Temple	Unfunded
NewT 31	Willow Grove Rd	Construct new road	Shine Branch Rd	Industrial Blvd	Temple	Unfunded
NewT 1	Zenith Ave	Realign & extend existing road	Zenith Ave	Young Ave	Temple	Unfunded



Future Regional Thoroughfare Network

All the potential projects defined by KT MPO and by its member jurisdictions' individual Thoroughfare Plans have been included in the future network, as shown for the region in **Figure 6-14**. Insets to show better detail of projects are included as **Figure 6-15** for Copperas Cove, **Figure 6-16** showing Killeen, Harker Heights, and Nolanville, **Figure 6-17** for Salado, and **Figure 6-18** for Belton and Temple. The Figures distinguish all streets by their Functional Class for Controlled Access through Collector streets. Local streets are not shown in this Thoroughfare Plan. The Figures include two ongoing studies which affect planning: coordination with the Capital Area Metropolitan Planning Organization (CAMPO) for six roads which cross the KT MPO study area into Williamson and Burnet Counties, and five alternative alignments for upgrades or new routes for US 190, which are identified in the study as "Primary Routes". The five Primary Routes for the US 190 study are shown in **Figure 6-19**.

All Figures show the existing 2017 streets and the proposed projects for upgrades to existing streets and for construction of new streets. The alignments of new construction streets are presented as approximations for planning purposes, and are not intended to represent the final alignments or to constrain KT MPO member jurisdictions in any way.

The key purpose of the Thoroughfare Plan is to identify future projects so that right-of-way can be planned for. Supporting this purpose, the Plan is coded with all projects defined by KT MPO and by its member jurisdictions, not just the projects which have been identified as funded in the previous Mobility 2040 Metropolitan Transportation Plan (MTP). This listing has been developed as an input into the updated KT MPO MTP for the year 2045. One of the functions of the 2045 MTP will be to prioritize the listing of projects and to balance them against the anticipated available funding to derive funded and unfunded project listings.



Figure 6-14: Regional Future Thoroughfare Network

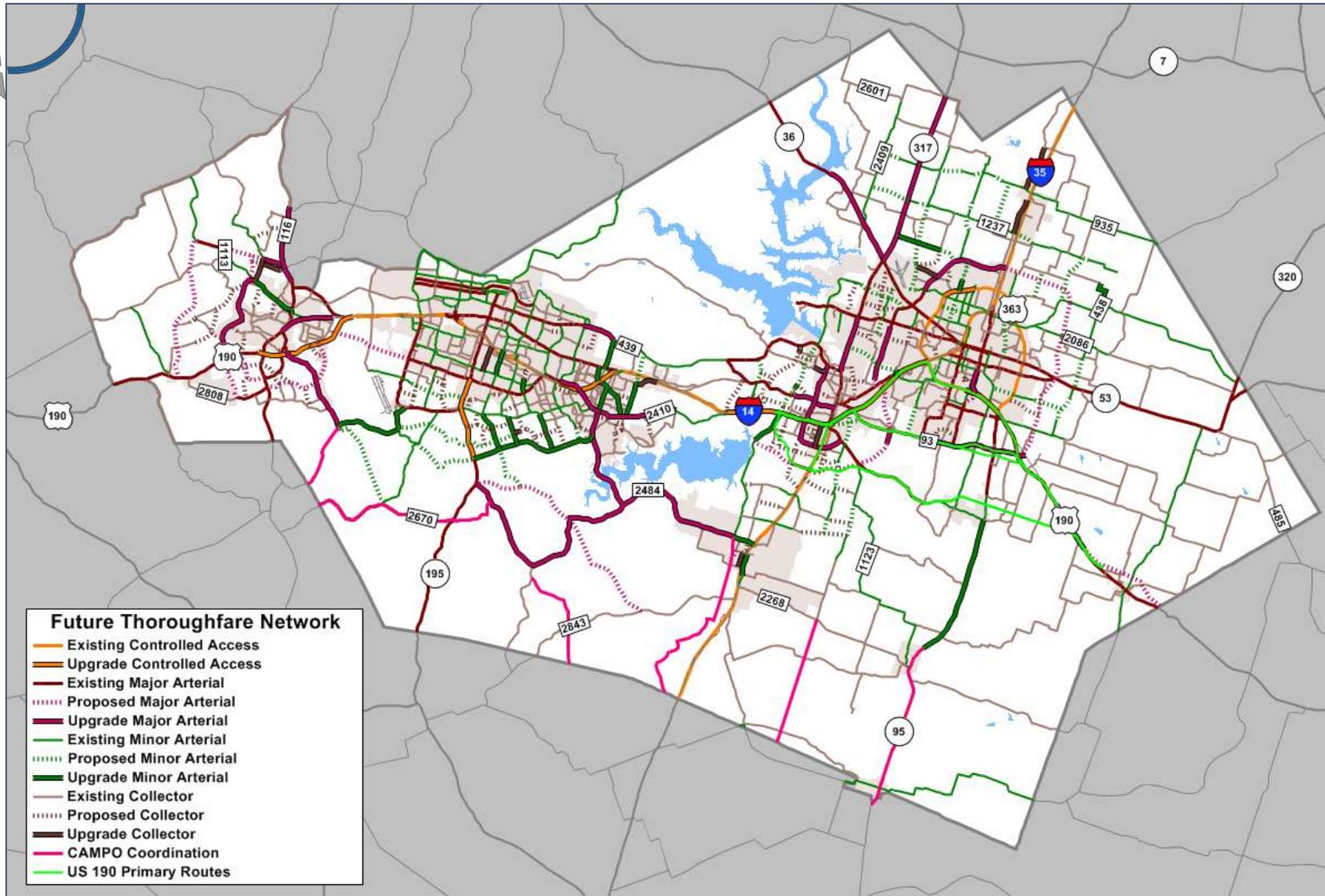




Figure 6-15: Future Thoroughfare Network Around Copperas Cove

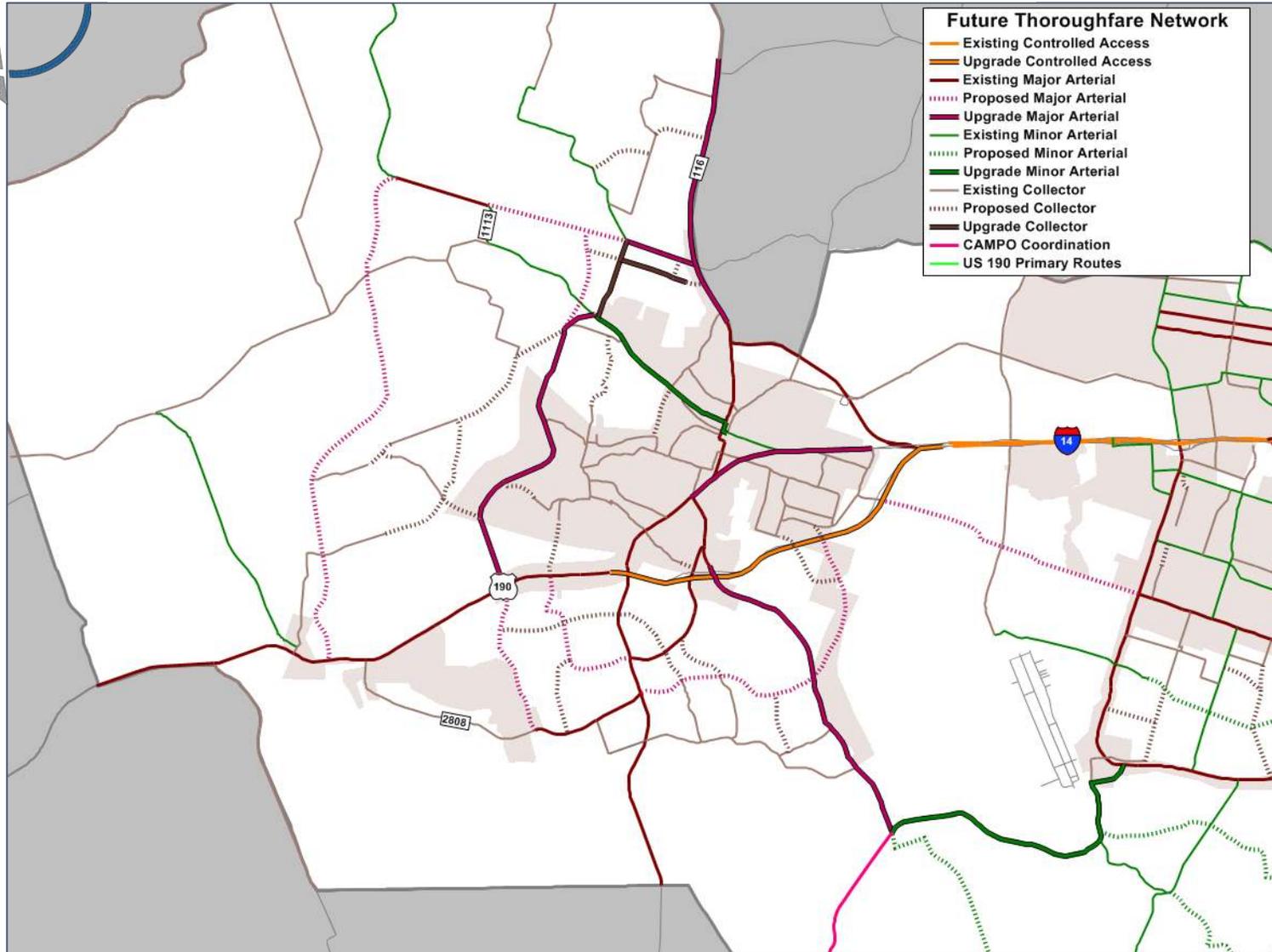




Figure 6-16: Future Thoroughfare Network Around Killeen, Harker Heights, and Nolanville

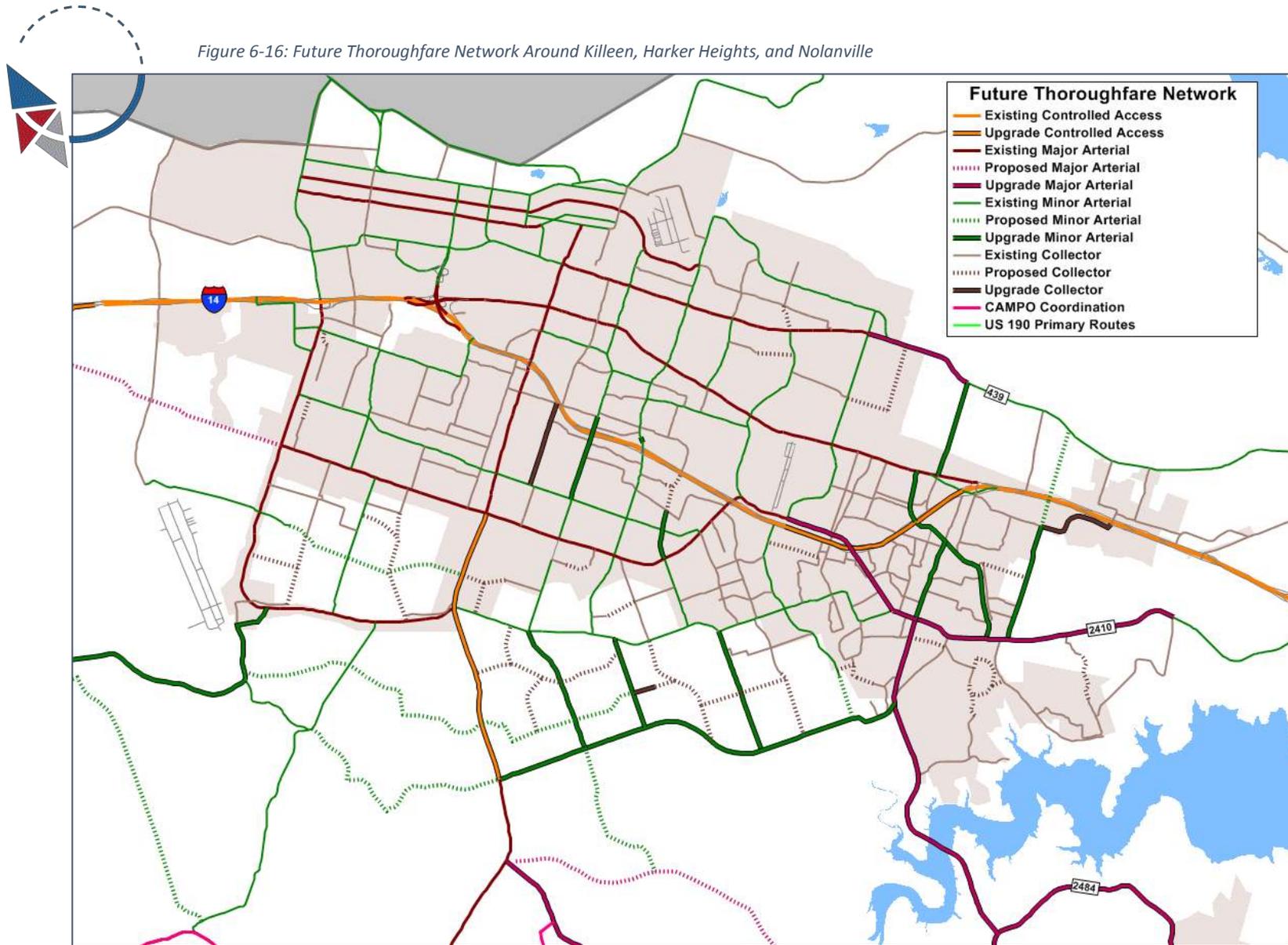




Figure 6-17: Future Thoroughfare Network Around Belton and Salado

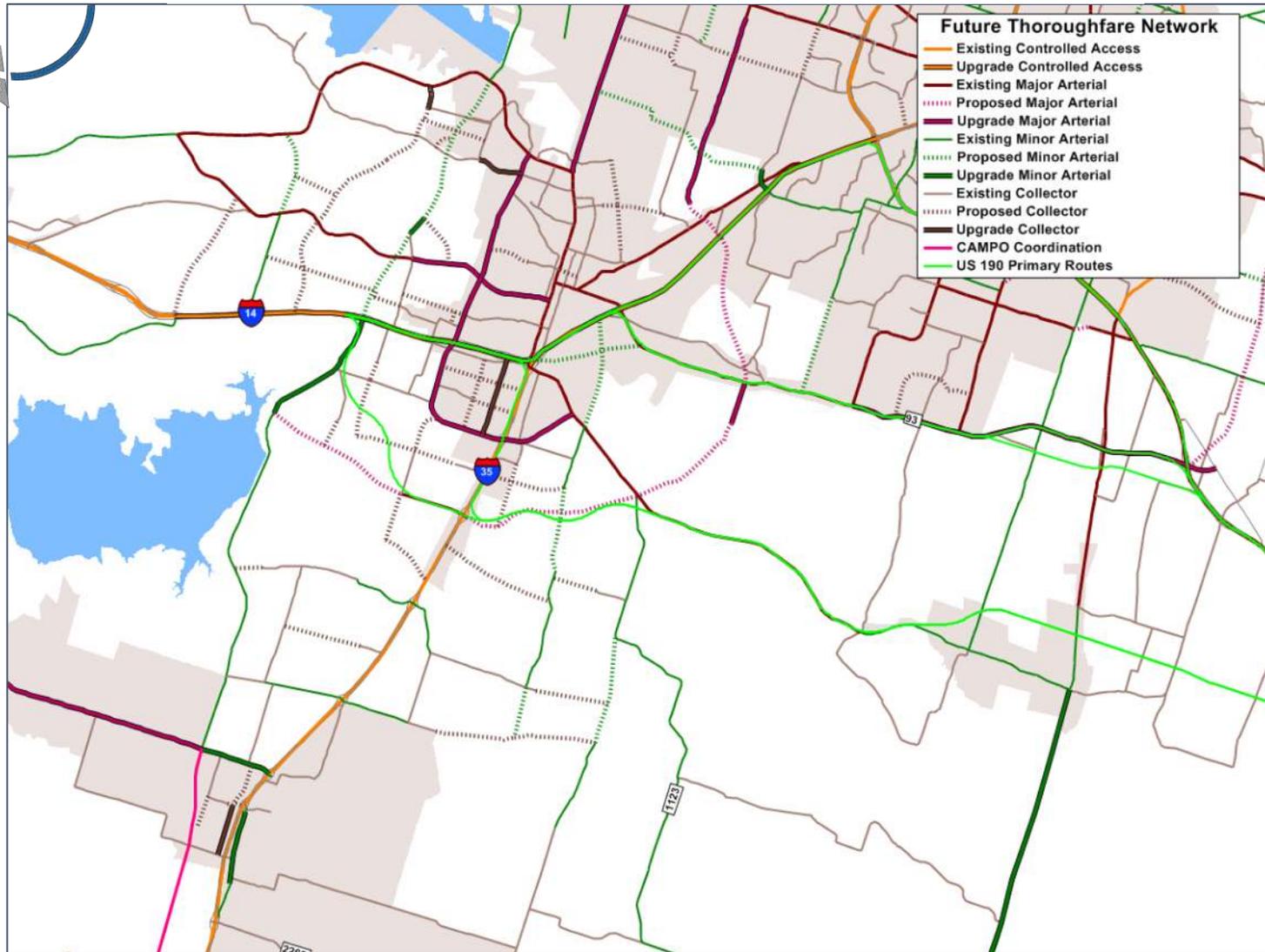
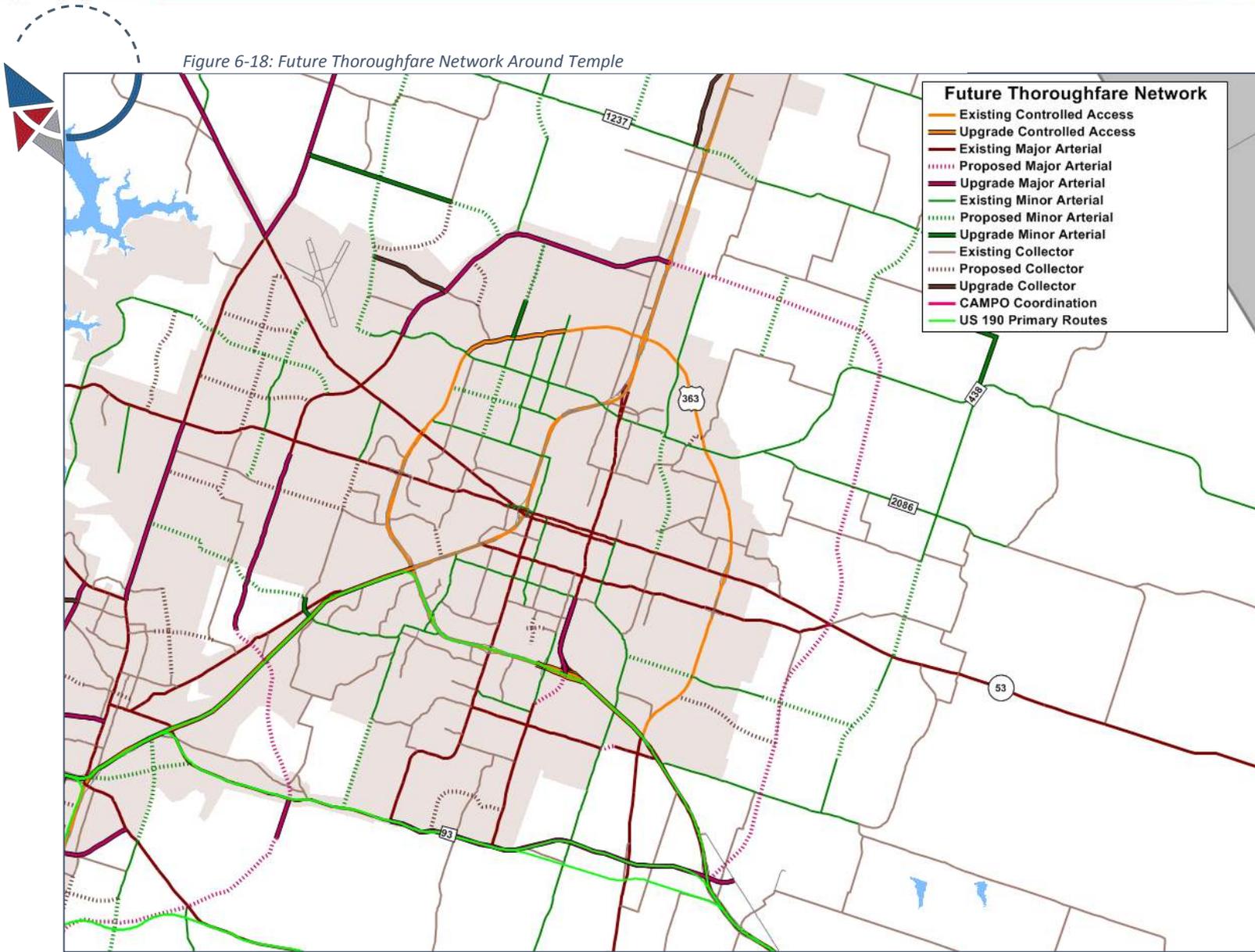




Figure 6-18: Future Thoroughfare Network Around Temple





The US 190 feasibility study being conducted jointly by the KTMP and TxDOT is exploring options for upgrades and possible new alignments of US 190 between FM 1670 west of I-35 and the proposed relief route north of Rogers. The forty route options identified in early stages of the study have been parsed to five options, labeled as “Primary Routes”, which will be the basis for further study and public participation. Only one of the Primary Routes will ultimately be selected, but at this stage of the study and for the purposes of the Regional Multimodal Plan, all options are presented in Figure 6-19.

The five Primary Routes include:

- Pink Route, 21.9 miles long, which maximizes the use of existing roads but is the most indirect.
- Blue Route, 19.1 miles long, one of the most direct routes.
- Brown Route, 19.3 miles long, one of the most direct routes.
- Black Route, 20.5 miles long, which avoids heavily populated areas.
- Aqua Route, 19.6 miles long, which maximizes the use of existing roads.

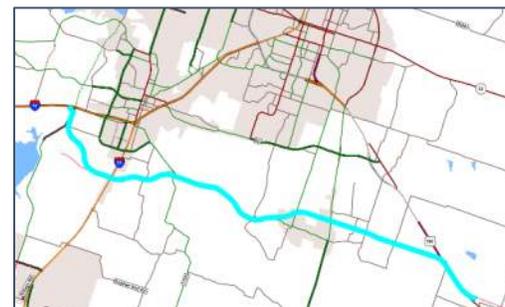
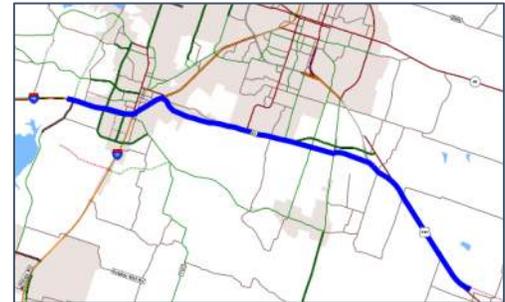
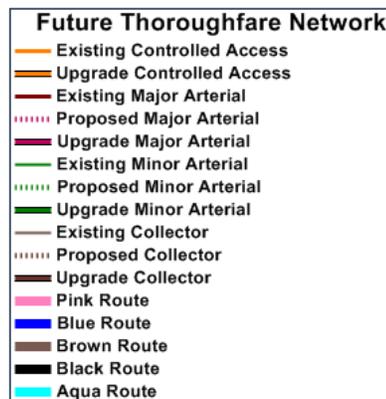


Figure 6-19: US 190 Study Designated Primary Routes





Summary

Based on the definitions of Functional Class for the street network, general design guidance for typical street cross sections have been provided. The guidance is generalized to recognize that the implemented Functional Class and cross section for each project must consider that the specific context of the project at any given time. Specific details depend on several factors, including the physical characteristics of the street, traffic volumes, mix of multimodal traffic, safety considerations, local standards and preferences, and funding. Therefore, the cross sections presented in this Thoroughfare Plan are meant as guidance for typical conditions, and should be refined as needed for each specific project.

Potential projects for this Thoroughfare Plan are derived from the Thoroughfare Plans and studies from KTMP and its member jurisdictions. At this stage of the planning process, the project list includes all projects, regardless of any designation as funded or unfunded in the previous Mobility 2040 MTP.

Each region is different with its own specific mix of Functional Classes, conditions, and geography, so there is no hard and fast guidance on the appropriate mix of classes. However, FHWA has listed general guidelines for the appropriate percentages of each Functional Class within a typical region. A comparison of the 2017 conditions and the future conditions with all network projects implemented is shown in **Table 6-5**. The tabulation shows that the majority of potential projects are proposed streets rather than upgrades to existing streets. In general, the Functional Classes with the most mileage of potential projects to upgrade existing streets are Major Arterials and Minor Arterials. For new construction streets, the Functional Classes with the most mileage of potential projects are Minor Arterials and Collectors.

The overall statistics for the mix of streets by Functional Class does not change significantly with the future network. With all potential projects implemented, the mix of Functional Classes in the KTMP region remains appropriate when compared to the general FHWA standards.

Table 6-5: Regional Mix of Functional Classes for 2017 and the Future Thoroughfare Plan Network

Regional Mix of Functional Classes							
Functional Class	2017 Network		Potential Projects		Future Network		
	Mileage	Percent	Upgrades	New Construction	Mileage	Percent	Guidelines
Controlled Access	143	4%	23	10	144	4%	0 - 9%
Interstate	71	1.9%	23	5	76	2.0%	
Expressway	51	1.4%		5	56	1.4%	
Freeway	21	0.6%			12	0.3%	
Major Arterial	110	3%	52	29	169	4%	2 - 4%
Minor Arterial	246	7%	38	61	315	8%	4 - 8%
Collector	760	21%	18	127	850	22%	20 - 25%
Local	2,406	66%	0	0	2,406	62%	65 - 75%



Construction costs for the types of projects listed in this Thoroughfare Plan can vary significantly based on site geologic conditions, drainage, subsurface utilities, and materials specifications. Environmental and social considerations can also have a significant impact on project costs. However, average costs for typical projects may be estimated based on a review of costs for multiple instances of project types. Typical costs for projects were developed in **Table 6-2** based on compilations of typical project costs documented from several sources: the American Road & Transportation Builders Association (ARTBA), the Arkansas Department of Transportation (ARDOT), the Florida Department of Transportation (FDOT), the North Carolina Department of Transportation (NCDOT), the United States Department of Transportation (USDOT), the Texas Department of Transportation (TxDOT), and the Victoria Transport Policy Institute (VTPI). The resultant costs for projects listed in the table cannot be considered as appropriate for budget estimates, but can be valuable in comparing the relative costs of different types of projects.

Table 6-2: Typical Construction Costs

Typical Construction Costs for Street Project Types		
General Project Description	Typical Cost	Cost Units
New Construction Streets		
New construction 2 lane undivided	2,800,000	per mile
New construction 2 lane, curb & gutter, parking each side	4,000,000	per mile
New construction 4 lane, curb & gutter, raised median	4,700,000	per mile
New construction auxiliary lane	180,000	per mile
New construction turn lane	180,000	per mile
Upgrade Existing Streets		
Widen 2 lane undivided to 4 lane undivided	3,100,000	per mile
Widen 2 lane undivided to 4 lane divided	3,600,000	per mile
Widen 4 lane to 6 lane divided	3,600,000	per mile
Intersections		
Diamond intersection	20,500,000	each
Grade separation	3,300,000	each
Traffic signal	180,000	intersection
Protected intersection	70,000	each
Roundabout	250,000	each
Multi-lane Roundabout	350,000	each
Crosswalk	3,000	each
Bicycle & Pedestrian Facilities		
Widen street 4' for bike lane	300,000	per mile
12' multi use trail	200,000	per mile
5' sidewalk, both sides	250,000	per mile
Curb bulb-out	13,000	each
Pedestrian median island	13,000	each
Crosswalk	2,500	intersection
Utilities & Bridges		
Extend or relocate underground water line	70	linear foot
Extend or relocate underground sewer line	60	linear foot
Single-circuit overhead power line	285,000	per mile
New construction bridge over stream	105	square foot of deck
Wetland mitigation	60,000	acre