

## 3.2 Mobility

### TRANSPORTATION NETWORK

The size and constraints of Bee Cave creates a challenging environment for a well-connected transportation network. Currently, regional traffic is limited to SH 71 West, RR 620, FM 2244, and Hamilton Pool Road which function as connections between Austin and communities to the west. The opportunity to provide reliever roadways to these major (and congested) state highways is restricted by topography and three large nature preserves.

The current Thoroughfare Plan (TP) is the starting point for evaluating the connectivity provided by the existing and proposed transportation network. The TP includes unbuilt thoroughfares, connections, and roadway widenings.

According to the 2009 Thoroughfare Plan, the following thoroughfares are proposed, and still remain to be built:

- Vail Divide to Hamilton Pool Road (Type B Minor Arterial)
- New Collector from Vail Divide to Hamilton Pool Road (Type C Major Collector)
- New connection between Bee Cave Parkway and SH 71 (Type B Minor Arterial)
- New connection between Great Divide Drive and Shops Parkway (Type C Major Collector)

While reviewing the Thoroughfare Plan, opportunities for additional connections were explored in partnership with the City. There were a number of locations that didn't perhaps meet the criteria of the current thoroughfare classifications but where a connection between facilities that would be of value to local circulation and safety (e.g. a connection that would allow local traffic to avoid mixing with regional, higher speed traffic on arterial facilities) was present.

In order to provide for this option, an additional thoroughfare classification was developed: Type D Minor Connector (Type D). This new classification is defined as a two-way facility that may be public right-



SH 71

***SH 71, RR 620, FM 2244, and Hamilton Pool Road serve as the sole regional facilities - the topography of Bee Cave limits alternative options. This results in significant congestion along SH 71.***

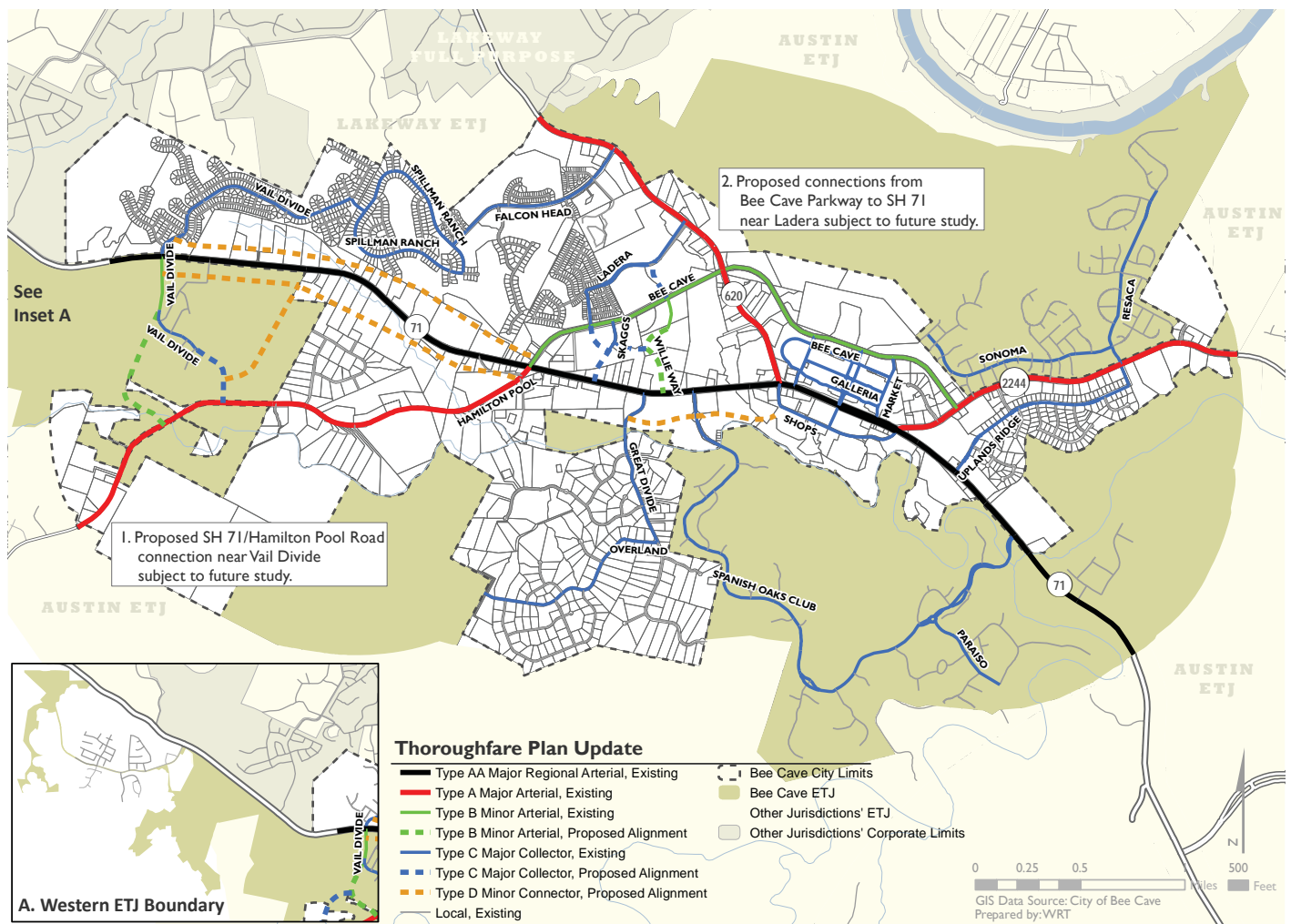
### ***Where are we now?***

- High levels of congestions at intersections
- Residential neighborhoods lack vehicle and trail connections
- High transportation costs, regional traffic results in congestion on major roadways
- Little to no options for shared transit

### ***What is our Vision?***

- A city that is connected
- A developing network of local roads, trails and sidewalks
- Safe and efficient road network and trail system that accommodates all types of users – including pedestrians, cyclists, and motorists.

Figure 3-2 Thoroughfare Plan



of-way or a public access easement, which provides connectivity between developments in order for short trips to bypass using the arterial and collector network. These connectors will provide Bee Cave residents, businesses, and visitors another option when making local trips, intentionally reducing the need to get on SH 71. Type D's are displayed on the Thoroughfare Plan Map to represent areas where additional connections are needed.

The implementation of Type D's will require focus at the time these properties are developed to determine the preferred alignment and facility type. This will include consideration of the following:

- Location of connections to collectors and arterials;
- Intersection design options;
- Flexibility relative to location of the alignment; and
- Whether the roadway is a public facility or an access easement.

In order to proactively address congestion, it will be beneficial for Bee Cave to consider ways to limit the number of trips on the roadway network. This could be accomplished via an improved collector network, providing for alternative modes of travel, and/or discouraging single occupant vehicles (SOV) use. Strategies for reducing SOV use include incentivizing carpooling with preferred parking spaces, providing attractive and easy to access bike racks at major activity centers, or creating an incentive program sponsored by local businesses.

With more drivers expected to be using these arterials by 2040 (from both within Bee Cave and passing through Bee Cave), focus on improving the existing system to meet future demand on the corridor is a priority. As Bee Cave and surrounding communities grow, the impact of these additional trips will be apparent in longer commute times proportional to the increase in traffic.

Of note, in 2014, 82% of the employed population in Bee Cave drove to work (78% drove alone / 5% carpooled), 16% worked from home, and 0% of the population took public transit to work.

Bee Cave's major arterials are forecasted to be "failing" in congestion and Level of Service standards by 2040.

## **TRAFFIC SAFETY CONDITIONS**

While the majority of the lane miles of the transportation network in Bee Cave are local facilities, a significant majority of incidents occur on the arterial network, made up entirely TxDOT roadways. The highest number of crashes occur at the intersections of SH 71 with FM 2244, RR620, and Hamilton Pool Road, including one fatal and six incapacitating incidents in the past three years. This is likely a function of the 'mixing' of trip types that is occurring along these facilities – regional, higher speed traffic along SH 71 is conflicting with local, lower speed traffic merging onto and off SH 71.

Due to the configuration of Bee Cave, there are not many intermediate roadways to collect trips from neighborhoods before using a major arterial. Most trips in Bee Cave feed quickly onto SH 71, which becomes the mixing point for local (slow speed) traffic and regional (high speed) traffic. This interaction can lead to higher levels of conflict points.

## **TRAFFIC CONGESTION CONDITIONS**

Congestion levels along the major arterials in Bee Cave are forecasted to reduce to Level of Service (LOS) ratings of E/F (failing). This includes SH 71, RR 620, and FM 2244. In particular, congestion is most apparent at the intersections of these major roadways with other arterials and collectors. In addition to regular commuter and retail congestion, significant congestion is added to the arterial network during peak school drop-off and pick-up times.

## **BEE CAVE HIKE AND BIKE PLAN**

In 2014, Bee Cave began the creation of a Hike and Bike Trail Connectivity Plan. An open house was held in January of 2015 to gather public input on the plan. The topics addressed by the plan include the inner loop, enhanced crossings, pedestrian bridges and tunnels, and neighborhood connections. A Preliminary Connectivity Plan was presented in March of 2015. The Hike and Bike Plan includes recommendations for multi-use trails, improved sidewalks, bike lanes, buffered bike lanes, cycle tracks, shared lanes, easements, and enhanced crossings. Bee Cave is also taking steps to consider using easements for hike and bike trails, working with the West-Travis County Public Utility Agency (WTCPUA) to move forward with this type of opportunity.

Currently, the Hill County Galleria Trail (a multi-use path along Bee Cave Parkway), the Shops at the Galleria, Falconhead Bee Cave Primitive Park, and the trail at the Shops, are the only non-park trails within Bee Cave. There are currently few on-street facilities (bike lanes, cycle paths, or sharrows) though Bee Cave Parkway does have "share the lane" signage. Shoulders serve in this capacity; and accordingly many cyclists use the improved shoulders on RR 620 and FM 2244 as bike routes. The technical appendix of the CAMPO (Capital Area Metropolitan Planning Organization) 2040 Plan indicates that RR 620 has a bike facility in the form of a designated shoulder.



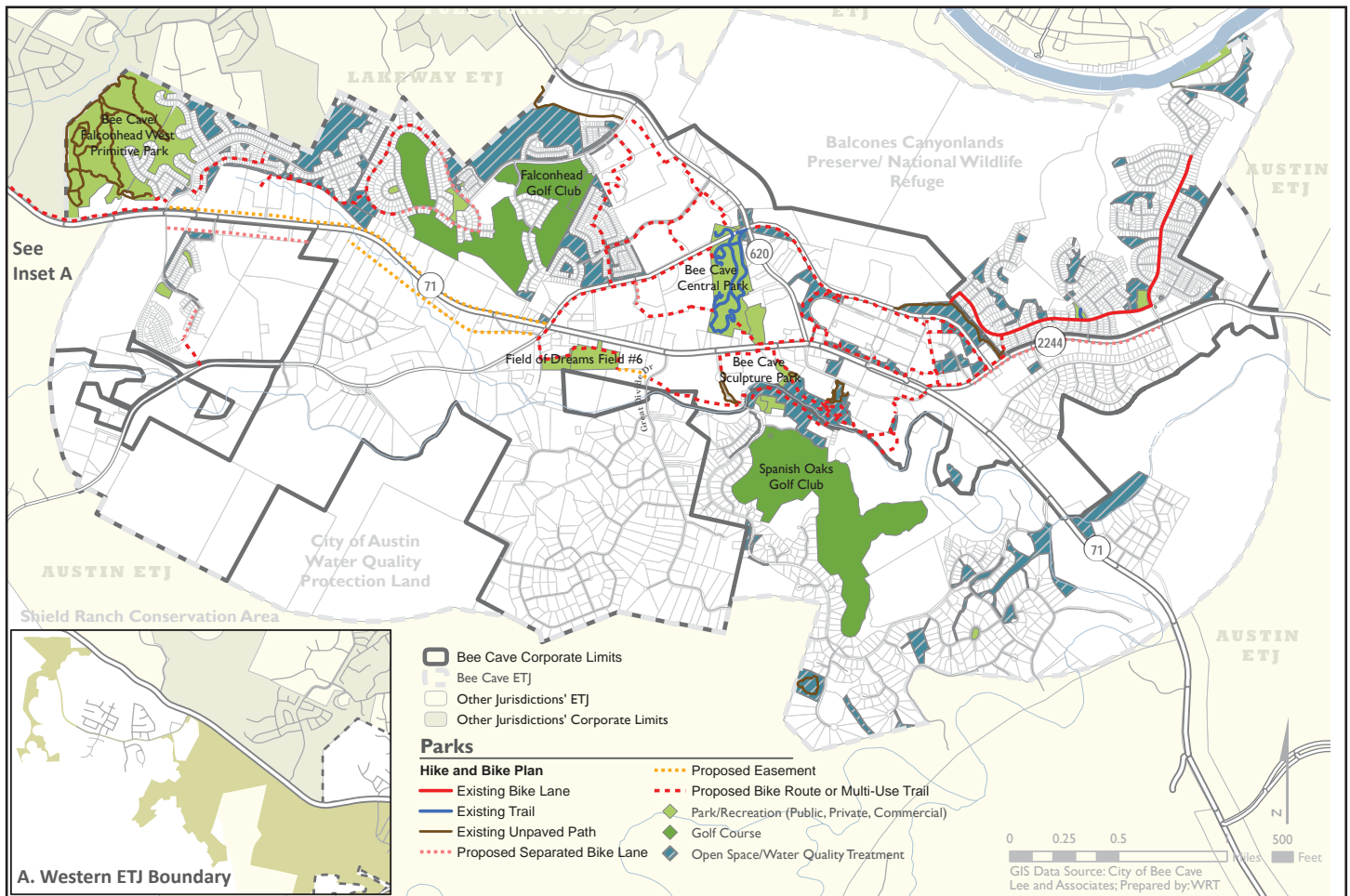
## PUBLIC TRANSIT

Currently, Bee Cave is provided with limited public transit service through the CARTS (Capital Area Rural Transportation System) District. CARTS serves the unincorporated areas of Bastrop, Blanco, Burnet, Caldwell, Fayette, Hays, Lee, Travis and Williamson Counties. There is a once a week scheduled service currently advertised from Bee Cave to Austin, and

residents are eligible to use the scheduled pick-up door-to-door bus option, which can accommodate persons with disabilities, with at least a week's advance notice. Bee Cave is currently not in the service area of Capital METRO (the metropolitan transit agency in Austin).

In addition, on-demand taxis and car service mobile apps are available to residents.

Figure 3-3: Hike & Bike Trail Connectivity Plan



Source: Hike and Bike Connectivity Plan (Lee and Associates)

## MOBILITY GOALS & STRATEGIES

### Goal M 1:

Provide a balanced transportation system that will effectively serve the existing and projected travel needs of the City in a safe, expeditious, economical and environmentally sensitive manner, especially as it is impacted by growth in surrounding communities.

There are planned connections in the City's Thoroughfare Plan, which, if completed, will have a positive impact on the functionality and efficiency of the overall network. Those connections include the connection between Vail Divide and West Hamilton Pool or the 'New Type C' Major Collector from Vail Divide to Hamilton Pool Road. Bee Cave should aggressively pursue opportunities to connect roadways with collectors (by planning for it through their Thoroughfare Plan and ensuring City Council strongly follows its intent to provide these additional connections) to allow SH 71 to operate as a regional facility.

To address congestion and Level of Service on Bee Cave arterials, the City should consider both short- and long-term improvements through coordination with TxDOT. Short term improvements may include signal timing optimization, access management improvements, and intersection modifications. Long-Term improvements may include major roadway widenings, major intersection improvements (e.g. turn lanes), or the addition of medians. There are a variety of tools that can be implemented to decrease the likelihood of incidents. In addition to providing connections, Bee Cave should pursue changes along SH 71 such as intersection modifications (e.g. at SH 71 and RR 620, and at SH 71 and FM 2244). Other potential changes to reduce traffic incidents could include narrower travel lanes to control speed, access management, medians, and enhanced pedestrian crossings.

2.1 Maintain a continuous, coordinated transportation planning process which addresses long-term needs while emphasizing short-term problem solving. The continuous process should include regular coordination with TxDOT planners to ensure the City benefits from ongoing work to improve RR 620 and other state roads.

- 2.2 Focus on studies and solutions to improve safety on heavily traveled roadways, as needed, including intersection modification, access management, medians, and improved pedestrian and bicycle crossings. The City could evaluate locations with high traffic incidents and conduct pedestrian and bicyclist surveys to prioritize improvements.
- 2.3 Meet "adequacy" standards (i.e., acceptable levels of service) for the transportation system in the City, by evaluating the impacts of new development appropriately, monitoring development progress to ensure mitigation improvements are provided according to the original plan, and partnering closely with TxDOT for needed on-system improvements.
- 2.4 Prioritize strategic investments to increase the capacity and efficiency of the existing roadway system. Investments to more efficiently move vehicles might include intersection improvements or improved signal timing.
- 2.5 Minimize disruption of residential areas in Bee Cave by minimizing traffic volumes on local streets (e.g., through effective neighborhood design and encouraging local connectivity) and by planning for the efficient diversion of cut-through traffic from neighborhoods via traffic calming tools. Traffic calming tools include, but are not limited to: landscaped medians, special crosswalk paving, chicanes, mini-roundabouts, speed bumps/humps, speed enforcement, etc.
- 2.6 Improve the character, safety, and functionality of Bee Cave's street network through transportation planning and improvements that address all modes and provide safe access to all types of users. (See also FLU 1.6). The City should consider adopting a Complete Streets policy, which recommends a combination of sidewalks, bicycle lanes, and safe pedestrian crossings, to ensure balance and safety for all transportation types and users.

- 2.7 Use the Hike and Bike Trail Connectivity Plan to develop a City-wide active transportation network of on-street and off-street bicycle and pedestrian facilities. (See also FLU 1.8, PR 3.1, 3.2). By finding ways for local neighborhoods to connect to this major activity center without using a vehicle, Bee Cave can create an amenity for the community. One option for providing this connection is the potential for an east-west connection on the south side of SH 71 connecting the Shops Parkway with Spanish Oaks Club Boulevard and Great Divide Drive.
- 2.8 Reevaluate the Bee Cave Thoroughfare Plan on a regular basis to look for potential ways to integrate new bike and trail connections into the road network. Ensure that any new roadway reconstruction projects take the Hike and Bike Trail Plan into consideration.

**Goal M 2:**

Encourage the organization and development of land uses in a manner that facilitates an efficient and cost-effective transportation system.

- 2.9 Develop a standard for a unifying aesthetics theme for consistent and attractive treatments to roadway rights-of-way and medians. Consider ways to improve the visual appearance and character of major thoroughfares through the enhancement of landscape medians, street trees, signage, plans for upgraded sidewalks and trails, and long-term policy for burying utility lines.
- 2.10 Support the connectivity of the City's land use mix to reduce trip length and minimize the need for motor vehicle trips.
- 2.11 Include transportation system considerations in the development review process, in addition to the Major Thoroughfare Plan, for the planning and alignment of future roadways, and to promote safe, efficient on- and off-site access and vehicular circulation and improve the integration of land use and transportation in the City.

- 2.12 Promote minimization of curb cuts onto major roadways, by improving internal cross circulation as properties redevelop or make site improvements.
- 2.13 Consider implementation of medians where appropriate to limit left-turn movements.

**Goal M 3:**

Recognize the impact of the regional transportation system on the City of Bee Cave, and the importance of maintaining improved coordination with the various entities involved in planning and/or improving the system.

- 2.14 Develop a local transportation planning process that ensures coordination with the regional planning goals – including engagement of local Bee Cave officials with CARTS, CAMPO, TxDOT, and Travis County transportation efforts, focused on expediting funding for planned roadway improvements. Expediting improvements likely requires financial engagement and participation with the partner agencies.
- 2.15 Initiate regular dialogue and coordination with surrounding municipalities, CARTS, CAMPO, and the Texas Department of Transportation (and TxDOT) on roadway planning and funding issues.
- 2.16 Work in partnership with surrounding communities and regional government agencies to support the region's mobility goals, transportation system sustainability, and quality of life.