



Transportation Framework

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Example of traffic congestion.

INTRODUCTION

Effective transportation systems are central to maintenance of the health, productivity, and safety of communities. The quality and availability of transportation services influence the type, timing, and density of development in the future.

The transportation element of a comprehensive plan identifies the general location and extent of existing and proposed arterial, collector, and local streets. This chapter addresses the need for, use of, and characteristics of the City of Warrenton's transportation systems. The transportation chapter describes the framework for the movement of people and goods, and supports the development patterns discussed in the Land Use Framework chapter.

The city has been and will continue to be dependent on its transportation network's mobility and accessibility. Successful planning efforts by the City of Warrenton will be measured (in part) by the ability to resolve transportation issues and satisfy the demands of its users. Avoiding congestion and retaining internal trip convenience for residents and businesses requires a careful balancing of planning objectives. The goal of transportation planning is improved safety and efficient operations of the community's various modes of transportation.

Transportation planning is not limited to vehicular traffic. Multimodal transportation options are considered including "Complete Streets" best practices, pedestrian and bicycle trails, and providing opportunities for future bus transit. All of these modes are viable means to safely and efficiently transport people and goods from one location to another.

Key Issues

Warrenton is primarily a car-dependent city similar to other out-lying communities along the I-70 Corridor. The land use pattern within Warrenton is accessible primarily by car. Warrenton has a number of major arterials or high-volume routes and a set of collector routes that feed into the network. A majority of the local street network (outside the historic grid pattern in the central city) has been developed in a typical suburban pattern.

There are many key issues relating to the transportation system which face the citizens of Warrenton every day. These concerns can be defined as the following:

- Increasing traffic demand at the Interstate 70 and Route 47 Interchange
- Connectivity between the north and south sides of I-70
- Limited access management along heavy traveled segments of corridors is a safety concern
- Lack of multi-modal transportation elements to improve regional freight movement
- Lack of sustainable funding mechanisms from local and regional partners such as the Federal Highway Administration, Missouri Department of Transportation, Boonslick Regional Planning Commission, and Warren County



Interchange.

Past Studies

The City of Warrenton, with collaboration from the Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA), completed a detailed study to justify the need for a new interchange along Interstate 70 to better serve the residents and businesses. The Interstate 70 and MO Route MM Access Justification Report (AJR) was completed in 2011, and recommended a new interchange west of Route 47 near Route MM. The AJR consists of a detailed, comprehensive overview of existing and projected traffic conditions throughout much of the City. Due to funding constraints and voter approval, this proposed interchange has not been constructed, and has fallen off of MoDOT's priority list.

Since its approval, the AJR has served the City as a transportation planning tool.

FUNCTIONAL CLASSIFICATION

The City of Warrenton does not currently have a Transportation Master Plan that defines the roadway system in place, but MoDOT's roadway classification system was used to classify Warrenton's existing roadways as a part of several traffic studies. The following definitions of each classification are a combination of MoDOT's Access Management Guidelines and The American Association of State Highway and Transportation Officials' (AASHTO) Green Book of highway standards. Most travel occurs through a network of interdependent roadways, with each roadway segment moving traffic through the system towards destinations. The concept of functional classification defines the role that a particular roadway segment plays in serving this flow of traffic through the network. Roadways are assigned to one of several possible functional classifications within a hierarchy according to the character of travel service each roadway provides. Planners and engineers use this hierarchy of roadways to properly channel transportation movements through a highway network efficiently and cost effectively.

The Functional Classification System developed by the Federal Highway Administration (FHWA) is widely used to define the traffic carrying function of streets. There are several ongoing planning initiatives to combine the traffic functional classification of streets with their adjacent land uses to yield a more comprehensive array of streets. The context-sensitive design initiative, sponsored by the Federal Highway Administration, urges state departments of transportation to make the road context (land use) an important part of road design. The Missouri Department of Transportation (MoDOT) has developed a classification system based on a roadway's functionality. They run from the most restrictive (Interstate) to the least restrictive (Local Road). These classifications are assigned to roadway segments based upon the current condition of the roadway. Classes also vary according to posted speed limit and whether the roadway has or is planned to have a restrictive or non-restrictive median.

Road Classifications

The roadway system consists of four basic classifications of thoroughfares. The classifications are defined by the function that each road performs.

- **Interstate Freeways** - The highest functional classification is the interstate freeways, whose primary role is to provide high speed movement of vehicles throughout the country. I-70 performs this function, as well as providing commuter service for residents of Warrenton who work through the St. Louis metro area.
- **Arterial Routes** - The next highest functional classification of roadways is the arterial routes. These roadways serve major centers, provide a high degree of mobility and can also provide mobility through areas. Minor arterials, such as Highway 47, provide service for trips of moderate length, serve geographic areas that are smaller than their higher arterial counterparts and offer connectivity to the higher Arterial system
- **Collector Streets** - Collector streets are the next tier in the functional classification system. These streets collect traffic from the local residential and commercial streets and carry it to the arterial routes. Collector streets are often designed to accommodate parking and bike lanes and some direct access to homes. Most vehicular trips on collectors should be less than one mile in length. If collector streets are designed as long continuous routes, then they often are used by motorists as high-speed arterial routes. Route M and MM, and the outer roads are functionally classified as collectors.
- **Local Streets** - The final, most common functional street classification is the local street. This type of roadway is intended primarily to provide direct access to residential and commercial driveways. They are intended for low speed travel due to the predominance of driveway movements, parking maneuvers, and activity of pedestrians of all ages.

Although the functional classification of streets is defined by vehicular travel, pedestrian and bicycle travel must also be accommodated by each of the functional classifications except interstate freeways. Sidewalks and trails and on-street lanes, as well as roadway features such as raised medians should be provided to keep our roadways from becoming barriers which restrict or even discourage pedestrian and bicycle travel between land uses and intermodal transit facilities.

Concept of Functional Classification:

The flow of traffic throughout a roadway network is similar to the flow of blood through the human circulatory system or the trunk and branch system of a tree. The units moving through the system (blood cells, nutrients, vehicles, etc.) move through progressively smaller network elements as they approach their destination.

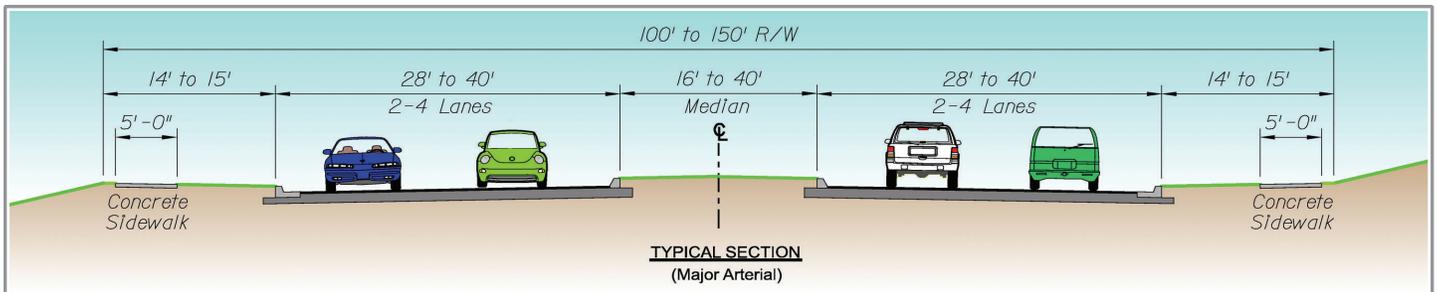
Highway Functional Classification Concepts, Criteria and Procedures

Growth to Street Network

As development continues, it is possible that arterial and collector streets may be added or extended to develop a more comprehensive street network. The American Public Works Association (APWA) and the Transportation Research Board's Highway Capacity Manual: 2000 are practical resources for construction specifications, design criteria and guidelines for roadways and other public works projects. It is recommended that the city consider these types of industry standards when designing future roadway extensions, additions or other capacity improvements to maintain uniform conditions throughout the city's street network.

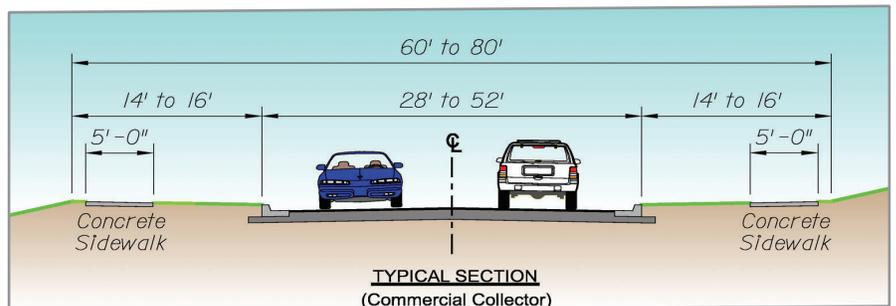
Shown below are APWA typical cross sections of a major arterial and a commercial collector, respectively.

- Arterial streets** are corridors that primarily serve the highest traffic volumes in the region. They connect communities to other commercial or residential districts, and connect to major state and interstate highways. A typical major arterial has between four and six lanes, with a 12-foot minimum width (excluding curb and gutter) for each lane. The width of the median varies from 16 to 40 feet and the right-of-way varies from 100 to 150 feet.



Arterial Street.

- A commercial collector** is a street that collects traffic to and from commercial, industrial or other urban areas, and distributes that traffic to arterial streets. These types of collectors typically have two to four lanes, with a 12-foot minimum width (excluding curb and gutter) for each lane. There is usually not a median present on commercial collectors. The right-of-way varies from 60 to 80 feet, including 5-foot sidewalks on both sides.



Collector Street.

Levels of Service (LOS)

Some of the City's major thoroughfares are, or will soon be experiencing congestion related to capacity limitations. One thing that affects both the capacity and safety of thoroughfares is the type and number of access points. MoDOT has developed and adopted a set of **Access Management Guidelines** which are designed to improve safety, decrease delays, stimulate economic development, and decrease vehicle emissions. These guidelines include recommended distances between adjacent intersections, driveways, and median breaks, as well as minimum sight distance requirements for sight distance for traffic entering and exiting side streets and driveways.

Operating conditions on the City's thoroughfares are described by the **Levels of Service (LOS)** which can be assigned to each route segment. These LOS are determined according to methods prescribed in the *Highway Capacity Manual (HCM)* prepared by the Transportation Research Board of the National Research Council. The LOS of road segments are generally related to the speeds of travel and the expectations of motorists as related to the functional classification of the roadway.

There are six LOS ratings named by the letters A through F. LOS A represents the best operating condition where motorists are free to adjust speeds and maneuver as necessary. LOS E is the maximum capacity of a roadway and LOS F represents the condition where traffic flow is severely congested and vehicle are often not moving, but stacked up in long queues. In general, the capacity of an urban street can be related to the number of lanes that the roadway provides.

- A 2-lane street can be expected to carry up to about 12,000 VPD or about 1200 vehicles per hour (vph).
- A 4-lane street should be able to serve about 12,000 to 24,000 VPD.
- A 6-lane street should be expected to serve about 24,000 to 36,000 VPD.

These general capacities are significantly affected by the number of left and right turning movements which are made to and from the particular street segment and whether there are separate left turn and right turn lanes provided for these movements.

The following table represents average delay per vehicle and associated LOS at each of the listed intersections. The No-Build Scenario reflects existing or future operating levels without a new interchange at Route MM, and a separate scenario reflecting future widening and interchange improvements at Route 47.

Six Levels of Service

Level-of-service A - Represents free flow. Users are typically unaffected by the presence of others in the traffic stream. Freedom to select speeds and maneuver is extremely high and the comfort and convenience provided to motorists, passengers, bicyclists, or pedestrians is excellent.

Level-of-service B - Is in the range of stable traffic flow. The presence of other traffic begins to be noticeable. The freedom to maneuver and the level of comfort and convenience are somewhat less.

Level-of-service C - Is in the range of stable flow, but it marks the beginning of the range of flow in which traffic operations are significantly affected by the presence of others. The general level of comfort and convenience declines noticeably.

Level-of-service D - Represents high density but stable flow. Speed and freedom to maneuver are severely restricted and the user experiences a poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems.

Level-of-service E - Represents operation conditions at or near capacity level. All speeds are reduced to a low but relatively uniform value. Freedom to maneuver is extremely difficult and must rely on the courtesy of others users. Comfort and convenience are poor and operations at this level are usually unstable because small increases in flow or minor incidents will cause breakdowns in the traffic flow.

Level-of-service F - Is used to define forced or breakdown flow. This condition exists where the amount of traffic approaching a point exceeds the amount that can traverse the point. Queues form behind such locations. Operations within the flow of traffic are characterized by stop-and-go movements.

Access Management

Access management guidelines include the proper spacing of interchanges, public road intersections, traffic signals and driveways. When access points are too closely spaced, it is difficult to provide efficient traffic signal progression and queuing or congestion results.

<http://www.modot.org/business/manuals/AccessManagement.htm>

Access Management

Some of the City's major thoroughfares are, or will soon be experiencing congestion related to capacity limitations. One thing that affects both the capacity and safety of thoroughfares is the type and number of access points. MoDOT has developed and adopted a set of **Access Management Guidelines** which are designed to improve safety, decrease delays, stimulate economic development, and decrease vehicle emissions.

These guidelines include recommended distances between adjacent intersections, driveways, and median breaks, as well as minimum sight distance requirements for traffic entering and exiting side streets and driveways.

It is recommended that the City consider adopting these or similar guidelines when planning for future roadway improvements or new construction.

- During such thoroughfare improvement planning, consideration should be given to consolidating as many access points along such route as Route 47 Highway or Route MM to improve capacity and safety. In many cases it appears that it will be difficult and expensive to widen thoroughfares to increase capacity. Therefore, other measures such as access management should be encouraged to maximize the capacity of available street widths.
- Recognizing the difficulty of widening many thoroughfares in the City, it is important to also consider development and improvement of parallel routes as well as encouraging the use of other modes of travel. This could even include the limitation of off street parking that would discourage single vehicle trips and minimize stormwater runoff.
- Shared parking should be encouraged wherever possible.

MoDOT's **Access Management Guidelines** aim to improve safety for motorists and pedestrians, decrease delay through more efficient operations, stimulate economic growth, decrease emissions, and provide aesthetic improvements. The term "access" refers to the ability to enter or leave a business, residence, or land parcel from a public roadway via a connecting driveway. Recommended distances between driveways, signalized intersections and other roadways generate less traffic congestion and aid in traffic flow. Likewise, driveways or other openings where sight distance is insufficient are dangerous to both motorists and pedestrians. Access Management Guidelines provides these recommendations to ensure safety and maintain the functional hierarchy of roadways.

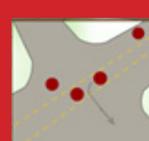
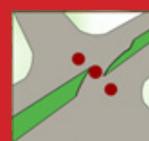
Access management is a proactive step in anticipating and planning for the City's future needs. These guidelines can be implemented into the initial planning and design stages of projects. As future improvements are made to the City's street network, access management considerations can play an important role in improving safety and increasing capacity along Warrenton's roadways.

Should Warrenton adopt either Access Management Guidelines, as some states and local governments chose to do, or Access Management Codes that have the additional weight of laws and ordinances behind them, it would be ideal to develop these guidelines specifically for Warrenton. The basic principles outlined by MoDOT will provide great guidance to the City. Specific judgment will need to be made as to which classifications, per MoDOT, are appropriate for Warrenton because of the differing road classification criteria. MoDOT classifies roadways based on their priority for statewide travel, as opposed to a city focused on local or regional travel. These guidelines can be implemented into the initial planning and design stages of projects. As future improvements are made to the city's street network, access management considerations can play an important role in improving safety and increasing capacity along Warrenton's roadways.

Ten Principles of Access Management

The Transportation Research Board's (TRB) Access Management Manual identifies 10 principles:

1. **PROVIDE A SPECIALIZED ROADWAY SYSTEM**
it is important to design and manage roadways according to the primary functions that they are expected to serve
2. **LIMIT DIRECT ACCESS TO MAJOR ROADWAYS**
Roadways that serve higher volumes of regional through traffic need more access control to preserve their traffic function
3. **PROMOTE INTERSECTION HIERARCHY**
An efficient transportation network provides appropriate transitions from one classification of roadway to another
4. **LOCATE SIGNALS TO FAVOR THROUGH MOVEMENTS**
Long, uniform spacing of intersections and signals on major roadways enhances the ability to coordinate signals and ensure continuous movement of traffic at the desired speed
5. **PRESERVE THE FUNCTIONAL AREA OF INTERSECTIONS AND INTERCHANGES**
The critical area is where motorists are responding to the intersection – i.e. decelerating, maneuvering into the appropriate lane to stop or complete a turn
6. **LIMIT THE NUMBER OF CONFLICT POINTS**
Drivers make more mistakes and are more likely to have collisions when they are presented with the complex driving situations created by numerous conflicts. Traffic conflicts occur when the paths of vehicles intersect and may involve merging, diverging, stopping, weaving or crossing movements
7. **SEPARATE CONFLICT AREAS**
Drivers need sufficient time to address one potential set of conflicts before facing another
8. **REMOVE TURNING VEHICLES FROM THROUGH-TRAFFIC LANES**
Turning lanes allow drivers to decelerate gradually out of the through lane and wait in a protected area for an opportunity to complete a turn, thereby reducing the severity and duration of conflict between turning vehicles and through traffic
9. **USE NONTRAVERSABLE MEDIANS TO MANAGE TURN MOVEMENTS**
They minimize left turns or reduce driver workload and can be especially effective in improving roadway safety
10. **PROVIDE A SUPPORTING STREET AND CIRCULATION SYSTEM**
A supporting network of local and collector streets accommodate development, and unify property access and circulation systems



New Interchange - I-70 and Route MM

“As a result of this study, the City will actively promote and work to develop a new I-70 interchange and extension of Missouri Route MM in order to meet local and regional transportation needs.”

ROAD CAPACITY IMPROVEMENTS

New Interchange at I-70 & Route MM

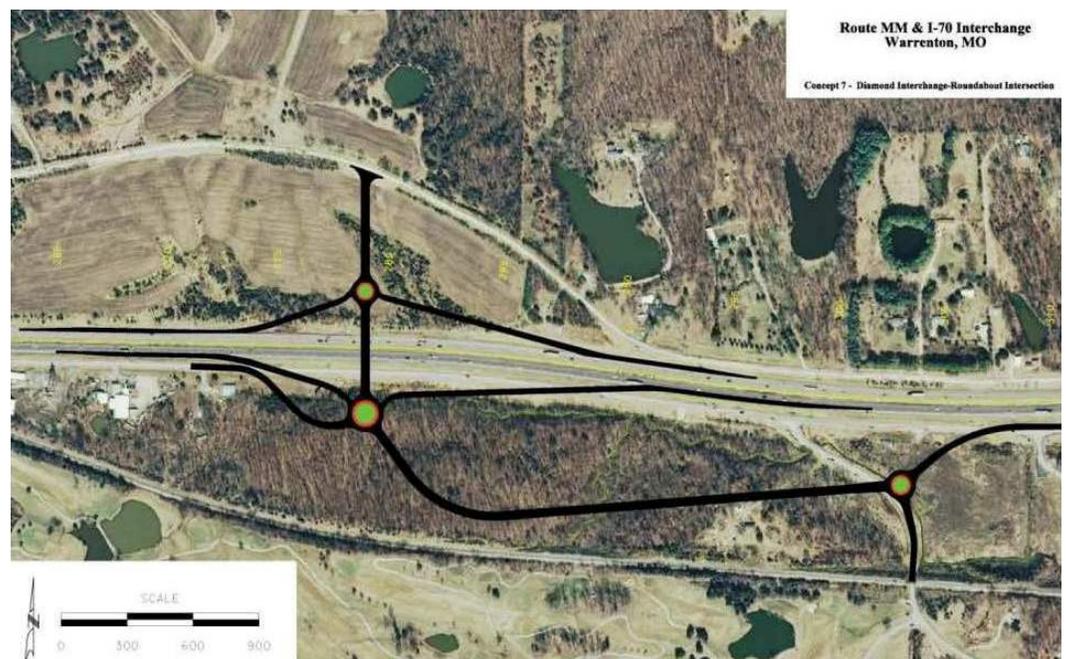
Warrenton is currently served by a single interchange at Missouri Route 47. This Route 47 was widened to five lanes wide in 1990 and the interchange is approaching capacity. A previous study prepared for the Missouri Department of Transportation (MoDOT) projected that a single point of access will not be sufficient for future traffic needs. The City of Warrenton is growing at a rate above the statewide average, and the Route 47 interchange will not be able to be improved to the point where it can handle the anticipated traffic.

In 2011, the City commissioned a transportation study to identify the benefits of a proposed extension of Missouri Route MM over Interstate 70 at a new diamond interchange with roundabouts at the ramp terminals, as established by “Interstate 70 and MO Route MM Interchange Access Justification Report” dated November 2011, and prepared by Crawford, Murphy & Tilly, Inc. As a result of this study, the City will actively promote and work to develop a new I-70 interchange and extension of Missouri Route MM in order to meet local and regional transportation needs as follows:

- Reduce congestion along the Route 47 corridor.
- Improve roadway connectivity between the northern and southern portions of the City of Warrenton and Warren County.
- Improve safety throughout the roadway network through a more efficient transportation system.
- Serve as a bypass around the north and west sides of Warrenton to support planned local land use changes and economic development north and west of the current city center, as well as diverting through traffic off of Route 47 north of Interstate 70.
- Improve emergency response abilities north and south across the interstate.
- The proposed interchange at Missouri Route MM will reduce crash frequency in the study area by diverting traffic away from Route 47, and diverting traffic away from both the Route 47 and Route A / B interchanges, which do not meet current design standards for acceleration / deceleration lengths.
- The proposed interchange will improve emergency response from north to south in Warrenton by providing a second crossing of Interstate 70.

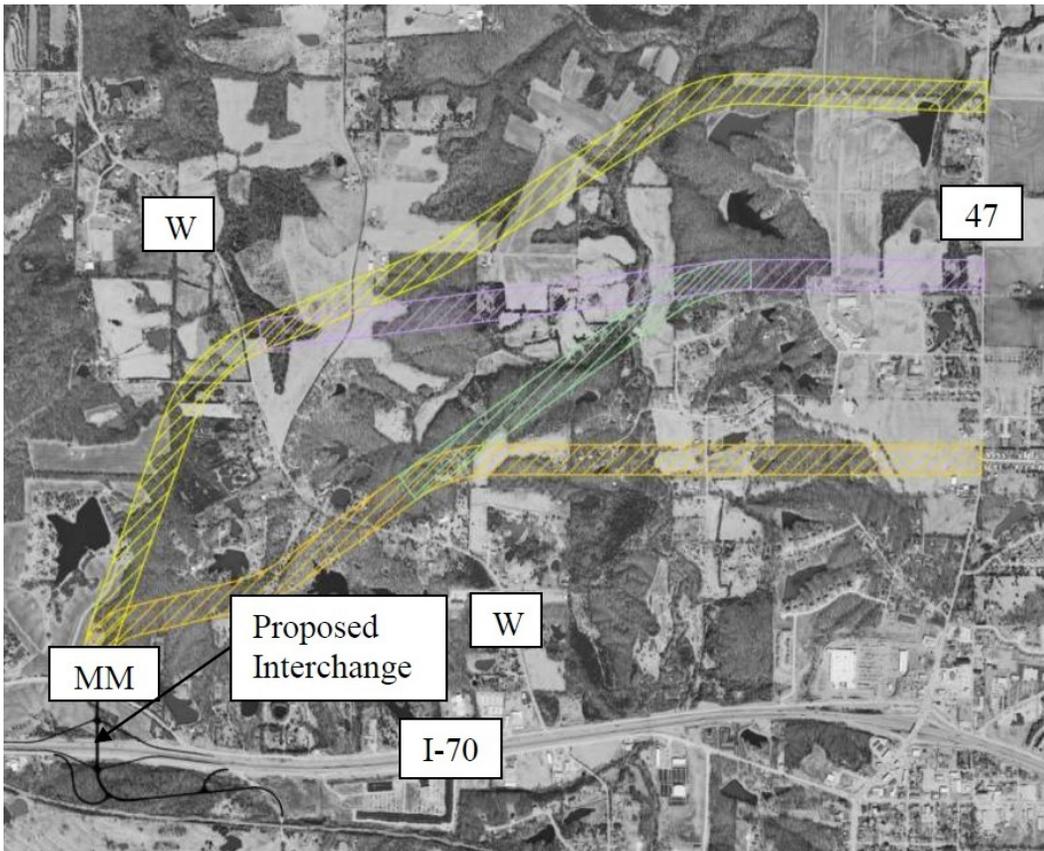
Interchange Configuration

The interchange configuration illustrated on the Proposed Street Map reflects the preferred alternate recommended by the AJR report. This preferred alternative is a diamond interchange with north and south outer roads, with roundabouts at each ramp terminal.



Possible Route MM Extension Corridors

The City of Warrenton plans to further extend Route MM to the north in the future and eventually connect it to Route 47 in the northern portion of the city. This second phase of the project would create a bypass around the Route 47 & I-70 interchange and support the planned development on the western side of Warrenton. A Route 47 bypass in Warrenton was identified by the Boonslick Regional Planning Commission as a regional need in the 2005 Transportation Plan. The future extension of Route MM would be a separate project from the proposed Route MM interchange and is not part of the proposed project presented in this report. The time frame for construction of the Route MM extension will be dependent upon the continued growth of Warrenton and development of area. Based upon likelihood of this extension in the future, the 2035 operational analysis includes the construction of the Route MM extension to Route 47. The Figure below shows potential corridors where the future extension of Route MM might occur.



Route MM Possible Extension Corridors

The proposed interchange will allow for a realignment of Missouri Route MM to serve as a bypass around the north and west sides of Warrenton. This bypass will serve the City of Warrenton’s goal of encouraging economic development north and west of the current city center as well as diverting through traffic off of Route 47 north of Interstate 70. The proposed interchange will improve access to the western half of the City of Warrenton. This bypass faces difficulties in implementation given that the area is somewhat built out and constructing a bypass at this location would may require the acquisition and removal of a number of homes and businesses.

Possible Stracks Church Road Upgraded Interchange

A traffic study completed for MoDOT in 2006 recommended a number of improvements to the roadway network within Warrenton, Truesdale and Wright City. The study concluded that Route 47 between Veterans Memorial Parkway and NOR could not be feasibly modified to provide an acceptable LOS. A new interchange with Interstate 70 was recommended to alleviate the expected congestion. This report examined an interchange in the proximity of the existing Stracks Church Road overpass, a 22-foot-wide aggregate county road approximately 3.5 miles east of Route 47.

Further study has eliminated this location as the priority interchange location due to the proximity of the rest area near mile marker 200. Combined with the interchange at mile marker 199 (Missouri Routes J, H and F), this location would create three interchanges in two miles.

However, the possible Stracks Church Road Interchange is viewed as a long-term need that would improve connectivity within the region, and to the expected growth areas north and east of Warrenton.

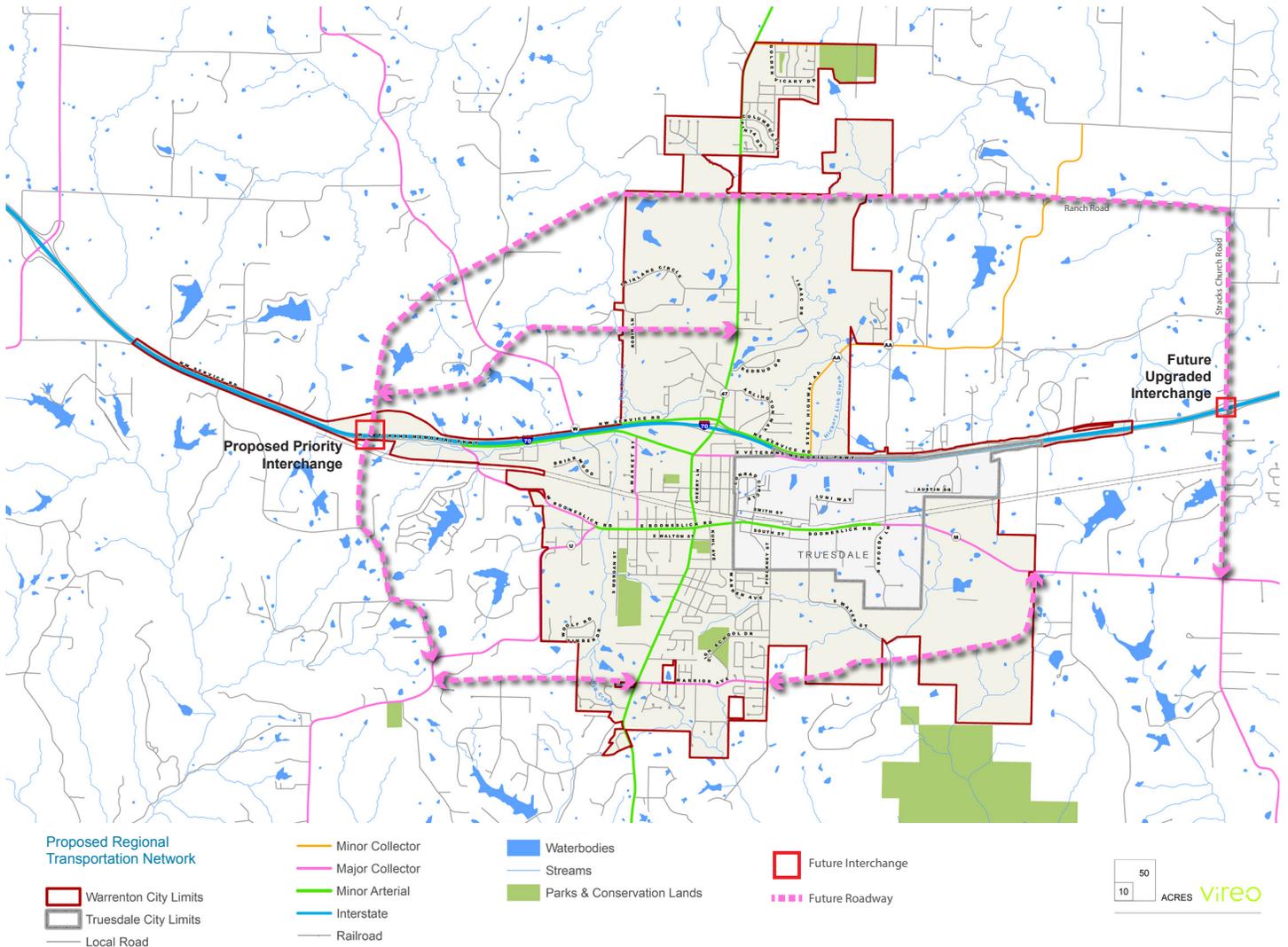
Recommendation

The future transportation and land use maps for the city now prominently show a new interchange at I-70 and Route MM and a possible future upgraded interchange at I-70 and Stracks Church Road. By prominently making the interchange a key priority for the City, Warrenton is laying the ground work to ensure that the new interchange ranks highly on lists and maps of future improvements outlined by MoDOT.

Communities that step forward with clear goals for their future transportation needs and have the support of citizens for these priorities usually have better odds of gaining approval and funding for improvements from MoDOT. As MoDOT plans for future needs along I-70 over the next two decades, the interchange is likely to rank as a higher priority given that Warrenton has already incorporated the interchange into its comprehensive plan for the next 20-plus years.

Proposed Regional Transportation Network Map (2016)

Figure: 17



Improvements To Existing Interchanges & Road Network

A previous study of the existing interchange at Route 47 found that a single interchange would not be sufficient to handle the anticipated traffic demand. This Plan identifies a new interchange west of Route 47 near Route MM as its top priority.

However, funding constraints could make this a significant challenge for the near future. In order to address this issue, and provide a transportation system which meets the demands of the citizens of Warrenton today, the City will be faced with the following short term tasks:

- **Existing interchange improvements** - to add capacity if future funding for a new interchange falls short include roundabouts at ramp junctions, timing plan upgrades, etc.
- **Access management upgrades** - along congested areas of Route 47 between Old 40 and Anwijo Way to improve the safety for motorists.
- **Reconstruction of the Route 47 interchange** - as a new **diverging diamond interchange**.

Based on historic traffic growth rates and Forecasts for traffic in the year 2021 completed by previous studies, MO 47 North may need to be widened to 5-lanes between the Wal-Mart entrance and Fairgrounds Road prior to 2021, as well as between Fairgrounds Road and Hickory Lick some time after 2021. In addition, MO 47 South may need to be widened to 5-lanes between the Route MM and Warrior Avenue after 2021. It is recommended that growth and development in the area be monitored in the coming years in order to assure timeliness.



Example roundabout including pedestrian and bicycle connections.



Illustrative Roundabout Location at N. Service Road and Wal-Mart Entrance

Improvements In Lieu of a New Interchange

Options could include: roundabouts at ramp junctions, diverging diamond interchange configuration, timing plan upgrades, etc.

Access management upgrades along congested areas of Route 47 between Old 40 and Anwijo Way to improve the safety for motorists.

The “Interstate 70 and MO Route MM Interchange Access Justification Report” dated November 2011, and prepared by Crawford, Murphy & Tilly, Inc., also states: “that improvements to the existing interchanges would not satisfy the stated Purpose and Need of diverting traffic away from Route 47 and providing access to the areas north and west of the current city center of Warrenton. The planned I-70 improvements include reconstruction of the Route 47 interchange. These improvements include dual left turn lanes from the interstate and improved intersection spacing. While these modifications improve the operations of Route 47, the delays anticipated in 2035 are unsatisfactory at LOS E. “

What is a Diverging Diamond Interchange

It's a non-traditional design to accommodate left-turning movements at signalized, grade separated interchanges while eliminating the need for left-turn phasing of the traffic signals. Also known as a Double Crossover Diamond (DCD)

Why a Diverging Diamond (DDI)?

- Improved operational benefits with two phase signal operation since left-turn phase is eliminated
- Theoretical pedestrian safety improvement with multi-stage crossing as pedestrians only cross one direction of traffic at a time
- Curvature reduces vehicle speeds through intersections
- Potential for reduction of infrastructure costs through reduction of needed lanes and underpass/overpass bridge width

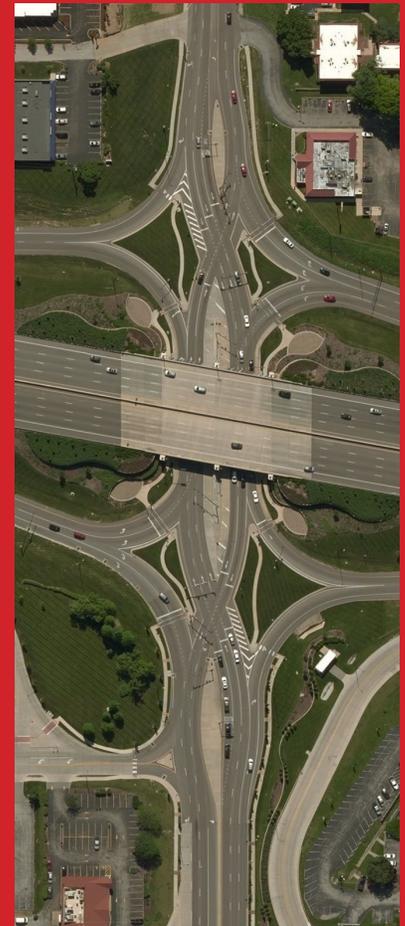
DDI Operational Benefits

Research has shown that compared to a traditional diamond interchange, the DDI:

- Reduces intersection delay by 15% –60%
- Increases throughput by 10% –30%
- Increases overall capacity by 15% -25%
 - A DDI accommodates heavy left-turn volumes onto ramps and from off-ramps
 - A DDI accommodates moderate or unbalanced through volumes

DDI Conclusions/Recommendations

- The safety benefit combined with predicted operational benefits and reduced roadway width requirements make the DDI an attractive interchange alternative
- Simulation study suggests potential driver confusion not as significant of a concern and is mitigated with proper design (reverse curvature), signing, and markings



Missouri DDI's

- I-44 & Route 13 in Springfield, MO
- I-435 & Front Street in Kansas City, MO to be constructed soon
- Planned:
 - US 65 & Chestnut Expressway in Springfield, MO
 - US 60 & National Avenue in Springfield, MO
 - Botts Road & Route 150 in Kansas City, MO
 - I-270 & Dorsett Road in St. Louis County, MO

TRANSPORTATION RECOMMENDATIONS

The various types of streets outlined in the Proposed Street Map fit together to form a network of streets to serve the needs of each land use throughout the City. As the City of Warrenton grows, the demands upon the street network will change. It is important that the future land use pattern be choreographed with decisions made regarding street classifications in the future.

Proposed Street Map

In addition to the improvements noted below, the Proposed Street Map identifies additional roadway corridors and helps reserve them for future improvements as new development takes place. Without this type of plan in place, the continuity and connectivity of existing and future roadways in the areas surrounding Warrenton cannot be guaranteed. The Proposed Street Map was developed using community input and the existing transportation studies prepared for the City of Warrenton as follows:

- The Boonslick Regional Planning Commission's "2005 Transportation Plan" identified the need to upgrade Route 47's capacity and identified the construction of Route MM extension and Route 47 Bypass around Warrenton as a regional priority.
- In 2006, MoDOT commissioned a traffic study which examined the need for a new interchange to alleviate congestion at the I-70 and Route 47 interchange. A new interchange was considered in the proximity of the existing Stracks Church Road overpass, east of Route 47.
- In 2011, the City commissioned a transportation study to identify the benefits of a proposed extension of Missouri Route MM over Interstate 70 at a new diamond interchange with roundabouts at the ramp terminals, as established by "Interstate 70 and MO Route MM Interchange Access Justification Report" dated November 2011, and prepared by Crawford, Murphy & Tilly, Inc.
- MoDOT completed the Improve I-70 EIS, which includes plans to widen Interstate 70 to six lanes through Warrenton, resulting reconstruction of the Route 47 interchange and also proposed moving the North Outer Road further north to attain recommended intersection spacing at interchanges. (not reflected on the Proposed Street Map.)

USING THE PROPOSED STREET MAP

The Proposed Street Map illustrates recommended capacity improvements and the approximate location and alignment of existing and future arterials and collectors that the city can integrate into their long term vision and goals, dependent on the type and intensity of surrounding development.

- **Context:** The map does not show every street that would be needed for future development. The local street pattern should be determined as development occurs, using the basic principles described in this Framework and the Form & Character of Development Framework.
- **Conceptual:** The routes shown are conceptual until a Transportation Master Plan is completed. The exact path of these streets may vary depending on the details of development as it occurs. The priority is to maintain the principle of connectivity, to provide access to the key connecting points, and to follow the general path shown in the map. Minor modifications can be made as needed on a case-by case basis. Detailed engineering studies will be needed before undertaking any new road construction.
- **Street Types:** The map designates streets by their functional classification, which is a description of the purpose each type of street is intended to serve.
- **Reserve Right-of-way:** The City should seek to establish right-of-way and setback requirements for each type of street; establishing criteria for or changes to Subdivision Regulations for dedication of right-of-way.
- **Build with Development:** The City should work with developers and property owners to reserve Right-of-way for major streets in advance of development.
- **Property Owners:** Some new roads run through property that is privately owned, and their implementation will therefore depend on the decisions of the property owners.
- **MoDOT:** Interstate and state highways are subject to separate transportation studies by the Missouri Department of Transportation (MoDOT).



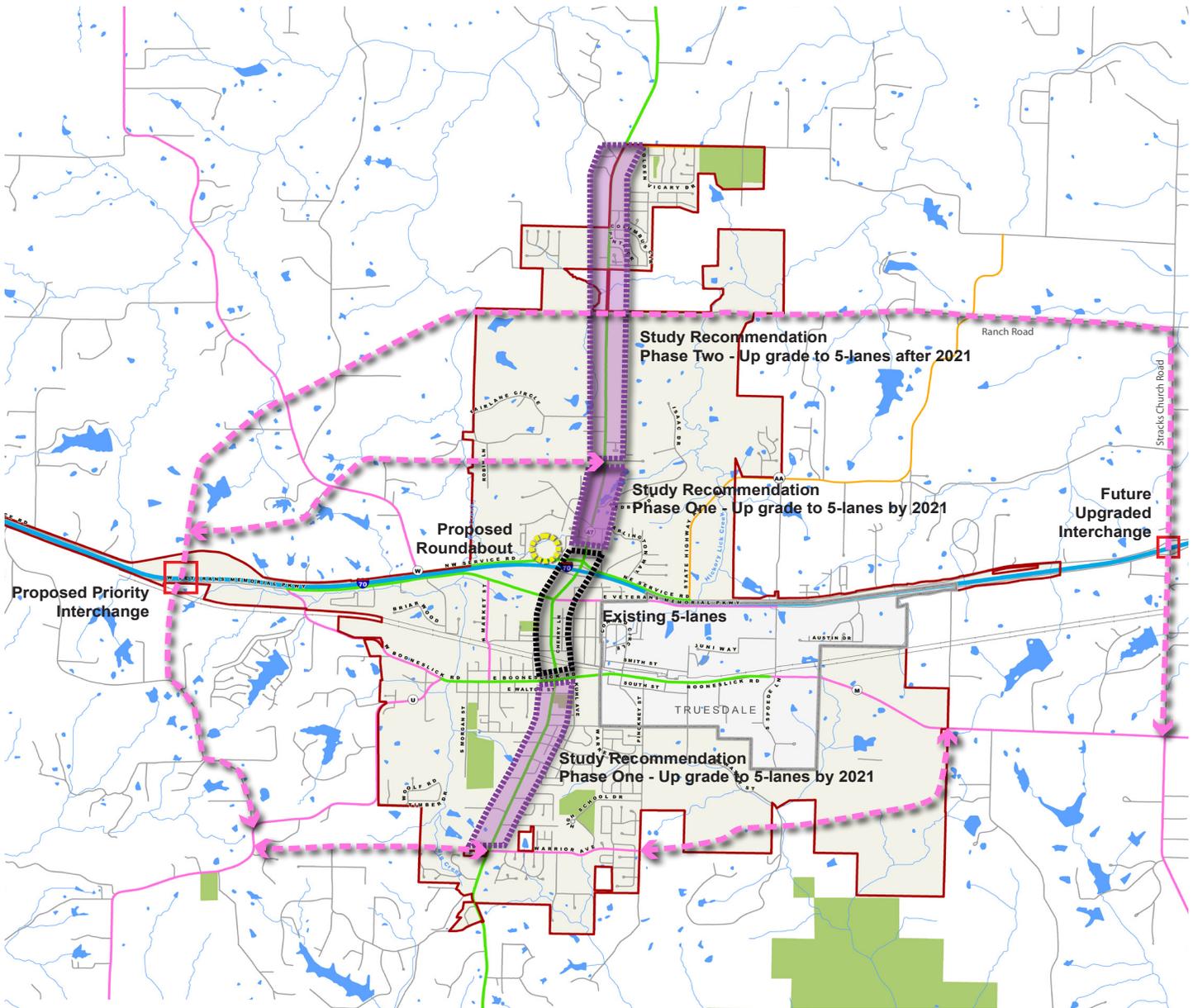
Roadways through medium density residential can operate as 2 or 3 lanes, with the third lane possibly being a left turn lane into the development.



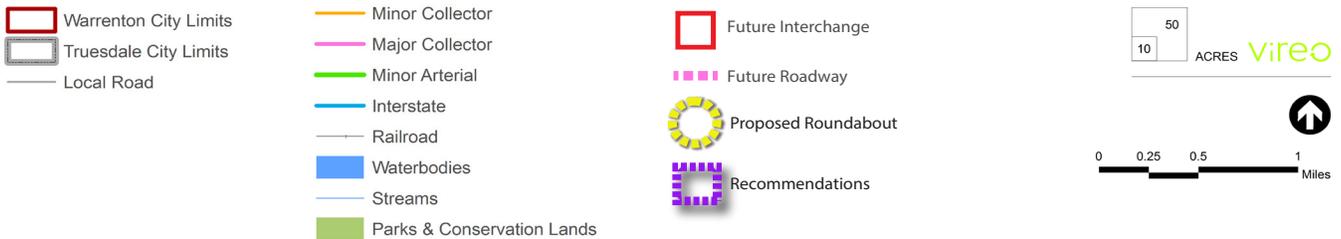
Depending on the intensity, roadways through commercial or industrial development may operate at 4 or more lanes. The arterial shown above has dedicated crosswalks for multi modal users, landscaped medians and lighting.

Warrenton Proposed Street Map (2016)

Figure: 18



Proposed Street Map



The Proposed Street map shows the general alignment and classification of streets and highways of an ultimate urban arterial network. The purpose of this map is to guide development of the arterial street network and to identify appropriate street rights-of-way to be secured at the time of subdivision platting. The Proposed Street map neither controls, nor dictates improvements to these facilities. Standards and plans for these facilities are controlled by their respective jurisdictions. The Proposed Street map domain is restricted to facilities controlled by the City of Warrenton. However, these other facilities are important to transportation connectivity in Warrenton, and are therefore appropriate to include on the map as information. In addition, the map neither controls, maps, nor dictates standards for collectors or local streets. Such facilities are addressed in the City standards.

INNOVATION IN DESIGN

Warrenton's new direction includes changing the way we do things. Developing systems that provide a better balance between modes of travel will better accommodate existing and future populations, but is not easy. The following includes best practices in design that can aid in development of a multi-modal system for Warrenton.

Conventional street design emphasizes automobile mobility and speed to the exclusion of other users. As stated by the National Complete Streets Coalition,

"Complete streets allow people to get around safely on foot, bicycle, or public transportation. By providing safe and convenient travel for everyone—including children, families, older adults, and people with disabilities—complete streets not only help people stay active and healthy but also reduce traffic and pollution."

Policies to Create Complete Streets

Local and state governments have the power to make communities healthier by implementing laws and policies that support complete streets. Complete streets policies change how streets are designed and built. Each street doesn't require the same features to be safe for active travel. A low design speed may be enough to make some streets safe; other streets may require elements such as frequent crosswalks, pedestrian signals, median islands, sidewalks, and bicycle lanes. Because complete streets features are only required when streets are newly built or reconstructed, their cost is incorporated into budgeted transportation projects.

- **Transition:** The transition to "Complete or Livable" streets could occur in strategic locations in Warrenton incrementally as roads are re-designed.
- **Example Typologies:** In lieu of an existing "complete or livable" streets analysis, this Plan provides example typologies, which are a way of evaluating corridors to get more out of the existing street system, manage maintenance costs, and enhance transportation options better.
- **Analysis:** Long-term, it is recommended that the City conduct a "complete" or "livable" streets analysis of all major thoroughfares to determine what measures can be implemented to manage travel speeds and accommodate pedestrians and bicycles.
- **MoDOT:** Recommendations made for interstate and state highways are subject to separate transportation studies by the Missouri Department of Transportation (MoDOT) and will necessitate a collaborative partnership to achieve the long-term goals of this Plan.

Complete Street Typologies

These street typologies attempt to strike a balance between functional classification, adjacent land use, and competing travel needs. The typologies will allow the City much more flexibility in implementing new street design in the short-term.

Each of the Street Typologies has a unique context and intent, and a series of applicable typical sections. The choice of the appropriate section is a function of other contextual parameters and may vary by segment. The graphics which follow illustrate the typical sections, with widths (in feet) shown for elements within the section, as well as the overall right-of-way for each section.

The street typologies include:

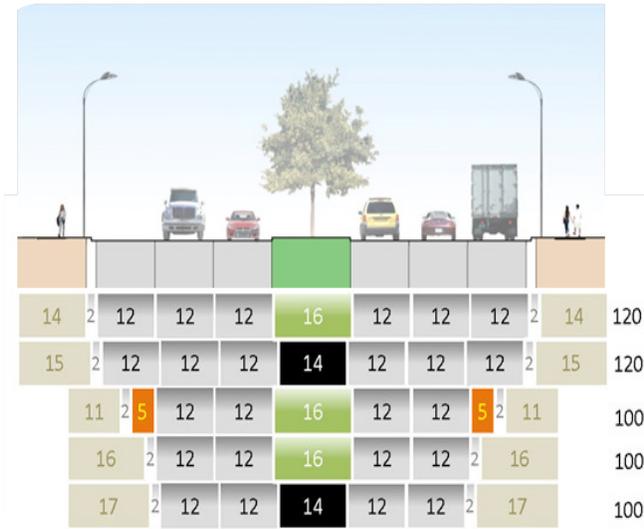
- Arterial Streets
- Main Streets
- Local Links

Future Planning:

A complete streets policy ensures that the entire right of way is planned, designed, and operated to provide safe access for all users.

See *Complete Streets Improve Safety for Everyone*. Washington DC: The National Complete Streets Coalition. Available at: www.completestreets.org/webdocs/factsheets/cs-safety.pdf.

Public Health Law & Policy
www.healthyplanning.org



Typical Context:

Commercial areas with many small strip centers and pad sites with buildings typically set back behind front parking lots.

Intent:

Emphasis placed on vehicular mobility and “through” or “destination” traffic.

Arterial Characteristics

The most widespread commercial street type is the strip commercial arterial. These arterials typically serve commercial areas that contain many small retail strip centers with buildings set back from front parking lots. Because of this, strip commercial thoroughfares have many intersections and driveways that provide access to adjacent businesses. Historically, this type of street is highly auto-oriented and tends to discourage walking and bicycling. On-street parking is infrequent.

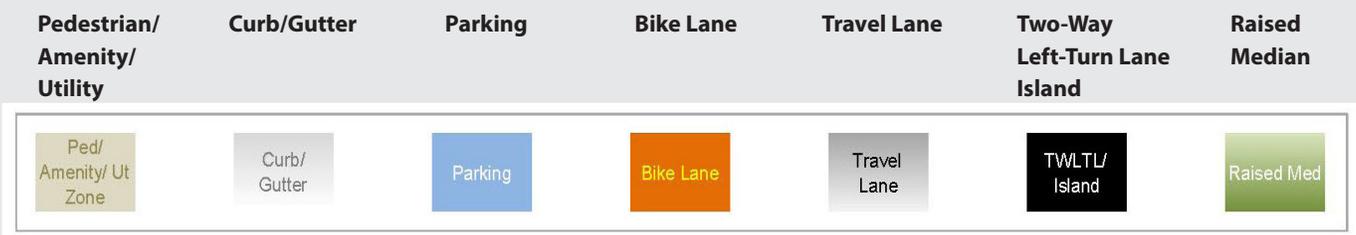
Arterial streets are designed with multiple lanes divided by a landscaped median or a continuous two-way left turn lane in the center. Thoroughfare streets are designed to balance traffic mobility with access to nearby businesses. However, because there are so many intersections and access points on thoroughfare streets, they often become congested. Improvements to these streets should come in the form of access management, traffic signal timing and creative intersection lane capacity improvements.

Priority Elements:

- Number and width of travel lanes
- Medians and Transit accommodations
- Pedestrian and Bicycle facilities
- Two-way center left-turn lanes
- On-street parking and Consolidated driveways
- Synchronization of traffic signals
- Narrower travel lanes
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures

Ideal Typical Section Legend:

The typical section legend includes, from left to right:



Local Link Characteristics

Local link streets strengthen neighborhood cohesion, promote alternative transportation, calm traffic and connect recreational destinations. They typically can be applied in two instances: in new residential neighborhoods, or as retrofits in existing residential or downtown streets that may be wide, but do not provide sufficient parking, bicycle and pedestrian accommodations or traffic calming measures. In both cases, Local link streets tend to be more pedestrian-oriented than commuter streets, giving a higher priority to landscaped medians, tree lawns, sidewalks, on-street parking, and bicycle lanes than to the number of travel lanes.

Local link streets consist of two to four travel lanes and place a much higher priority on pedestrian and bicycle-accessibility than on auto mobility.

Priority Elements:

- Sidewalks, Tree Lawns; Street trees
- On-street parking, Landscaped medians
- Bike lanes on designated bicycle routes
- Number and width of travel lanes
- Pedestrian islands, Narrower travel lanes
- Traffic circles and roundabouts, Diverters
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures



Typical Context:

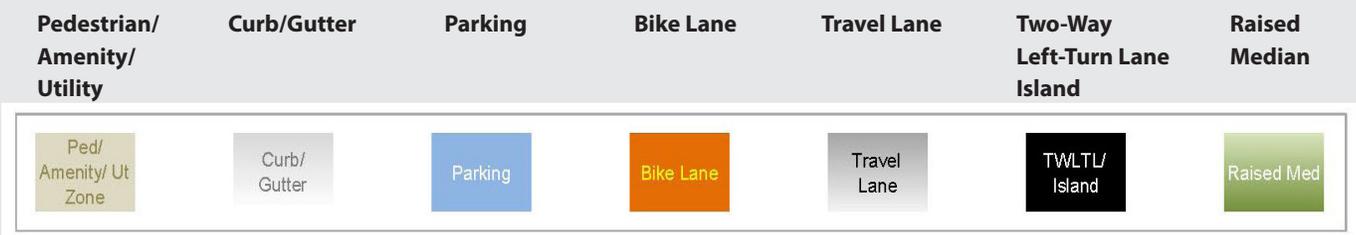
High-quality public spaces offering a variety of building types and land uses-particularly employment-oriented mixed-use-generating activity and diversity.

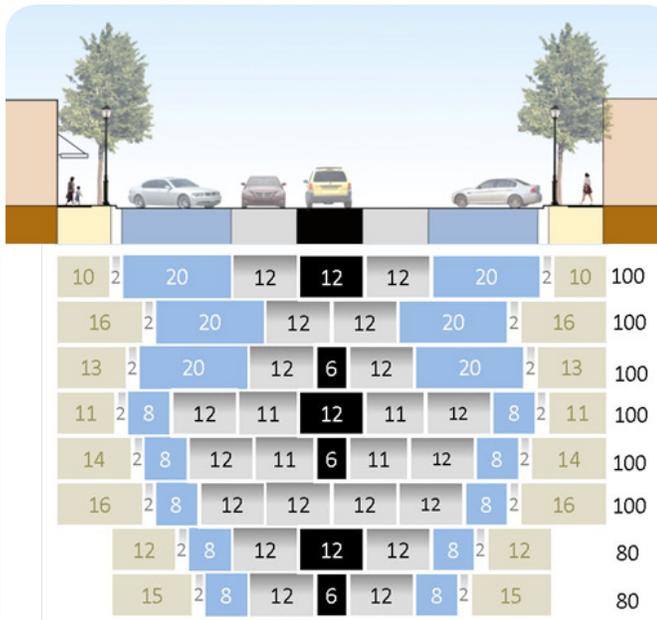
Intent:

Form a highly interconnected network, dispersing “through” traffic and providing convenient routes for pedestrians, bicyclist, and future transit users.

Ideal Typical Section Legend:

The typical section legend includes, from left to right:





Main Street Characteristics

Main streets serve the highest intensity retail and mixed land uses in Warrenton such as the “New” downtown and in regional and neighborhood centers. Main streets are designed to promote walking, bicycling, and future transit within an attractive landscaped corridor. Generally, main street activities are concentrated along a two to eight block area, but may extend further depending on the type of adjacent land uses and the area served. Main streets can be designed with two to four travel lanes, although typically have only two lanes. On street parking usually is provided to serve adjacent land uses. Unlike typical strip commercial developments, main streets offer the ability to park-once and walk amongst various destinations, thus reducing arterial trip making. The key is to create convenient parking that is on street or provided in a shared public parking lot. In order to ensure the walkability of a main street, careful consideration must be made to the design elements and amount of parking lots. When emphasizing street frontage walkability and bike/pedestrian neighborhood connectivity, tree lawns and detached walks receive priority over travel lanes. Within the parking lane tree wells may be used to create a double row of street trees in combination with a tree lawn. To further create a pedestrian friendly atmosphere, main streets have wide sidewalks, street furniture, outdoor cafes, plazas, and other public spaces.

Priority Elements:

- Wide sidewalks with pedestrian plazas, accommodates future transit
- Reduced pedestrian crossing distances at intersections, using curb extensions, traffic islands, and other measures
- Bicycle facilities, Tree lawns, On-street parking
- Width and number of travel lanes; Narrower travel lanes
- Alternative paving material, Raised intersections; High-visibility crosswalks

Typical Context:

Unique activity centers, often include a variety of land uses, most notably retail-oriented high intensity mixed-use.

Intent:

Create a reduced emphasis on automobile traffic and heightened pedestrian environment.

PEDESTRIAN AND BICYCLE NETWORK

The City can take steps to increase opportunities for walking and bicycling throughout the community for both recreational and commuting purposes. Adding linkages to existing and newer areas of the community, sidewalks along established corridors, and establishment of on-street bicycle routes may be needed in order to provide direct and safe routes for pedestrians and cyclists. In the future, existing greenways in the unincorporated area could aid in the expansion of a citywide trail system and provide connections to many neighborhoods.

This Plan also recommends the creation of a community-wide trail network, intended to increase pedestrian travel, encourage active lifestyles and expand year-round park and recreation options for all ages. Trail locations and sidewalk improvements should link to the City's roads, downtown, schools, churches, businesses, recreational facilities and neighborhoods. The general location of recommended trails and greenways is shown in the Parks and Trails Framework.

Pedestrian Enhancements Tools

The future use of pedestrian and bicycle enhancements should focus on improving non-vehicular access to new centers and existing destinations. Priority locations for enhancements should be routes from neighborhoods to schools and along connecting corridors. These enhancements come in the form of better coordination between public works and private development to create a cohesive pedestrian and bicycle environment, complete sidewalk connections, reduce neighborhood street speeds with traffic calming, and slow speed design into new developments and public works projects.

The level of pedestrian environment quality or standard should vary by the type of activity area. As an example, a high pedestrian performance level will be of greater importance in Downtown than in outlying, lower density subdivisions with light vehicular and pedestrian traffic.

Pedestrian Districts and Areas

The following activity areas, with differing levels of quality, are proposed:

- **Pedestrian Districts** - The primary area within the City of Warrenton that qualify as pedestrian district includes the Downtown area. Pedestrian Districts typically include locations that residents consider as places to go to, walk around, shop, eat, or conduct business. Pedestrian standards should be high in the Downtown pedestrian district. In addition to the need for direct, continuous sidewalks where it is safe to cross the street, this area would require higher levels of visual interest and amenities to attract residents and visitors. Future pedestrian districts could be added to this designation where there are planned future mixed-use activity areas.
- **Commercial Centers and Corridors** - These areas tend to be located along arterials and aggregated at various locations along the corridor, particularly where major arterials intersect. In the past, these locations have been more of the strip commercial and "L" shaped neighborhood shopping center style developments, which provide relatively poor pedestrian environments. Future goals include improving the directness and safety of the pedestrian network to, from, and within these locations.
- **Schools** - Whereas it is not necessarily critical for routes to schools to be picturesque and visually captivating, for the future, there are basic pedestrian needs for the student, including a safe and secure continuous sidewalk with safe street crossings and direct connections to neighborhoods. Cities across Missouri have been participating in the federal "Safe Routes to School" program which funds studies that address these issues.



Pedestrian crossings on major roadways can be difficult but important.



Importance of bicycle safety.

Walking- Levels of Quality (LOQ):

LOQ are meant to show graphically how some streets work better than others for access, safety and mobility of all modes.

www.walkable.org



Participants preferred walking in their neighborhoods.

Pedestrian and Bicycle Level of Quality Standards

Warrenton can be made more walkable by incorporating street design that encourages walkability and makes it a pleasurable experience. While roads have been designed to follow the Level of Service (LOS) standards that measures only how fast and free-flowing cars can move, Level of Quality (LOQ) standards measure walkability of streets, bicycle ability, and traffic calming.

Developed by Dan Burden of "Walkable Communities," LOQ are meant to show graphically how some streets work better than others for access, safety and mobility of all modes.

Levels of Quality Standards

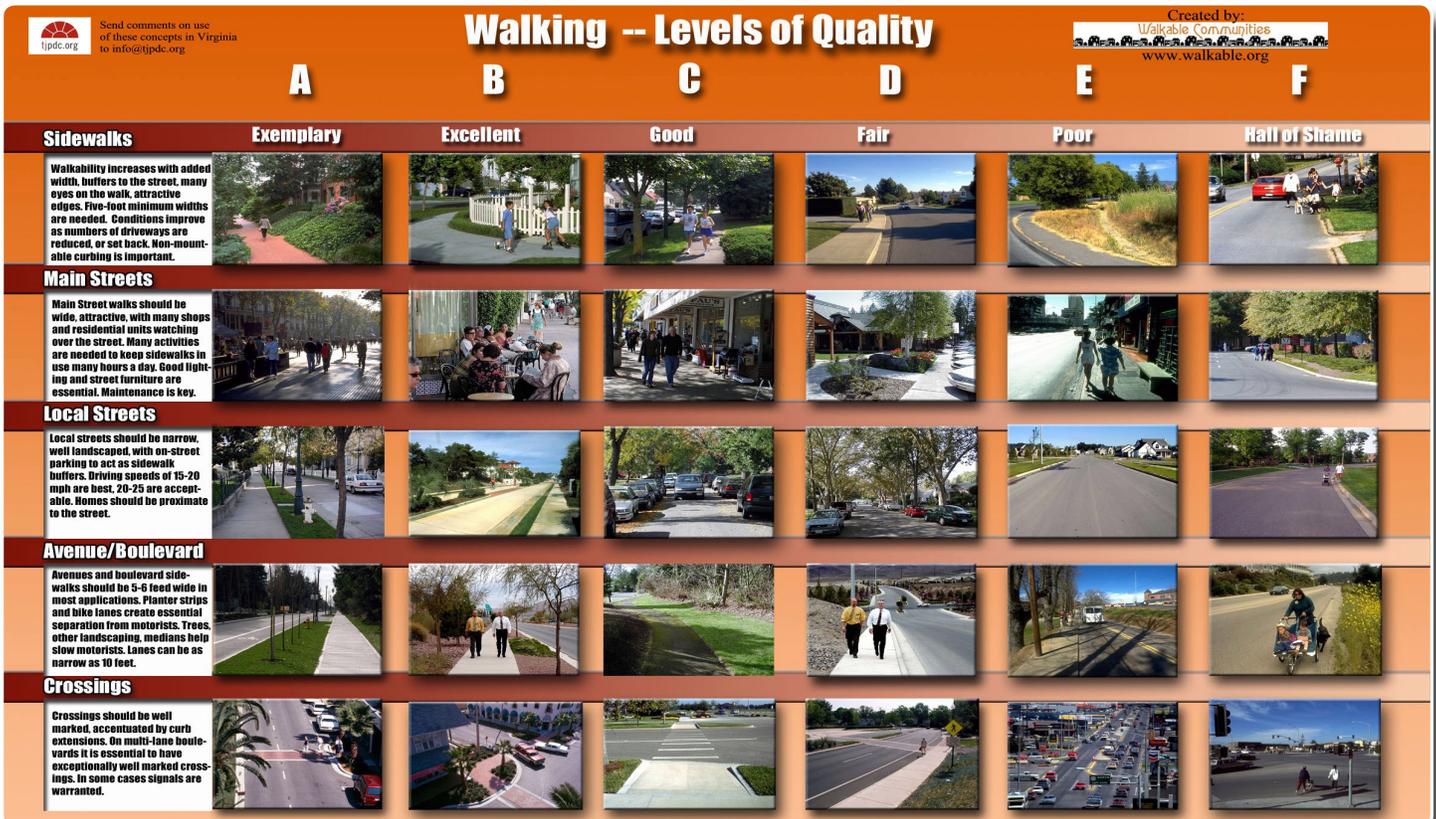
- Walking
- Bicycling
- Traffic Calming - Intersection Tools

Walking - Levels of Quality

The level of quality in the chart which follows, grades the quality of sidewalks, main-streets, local streets, boulevards, and crossings from very poor to exemplary.

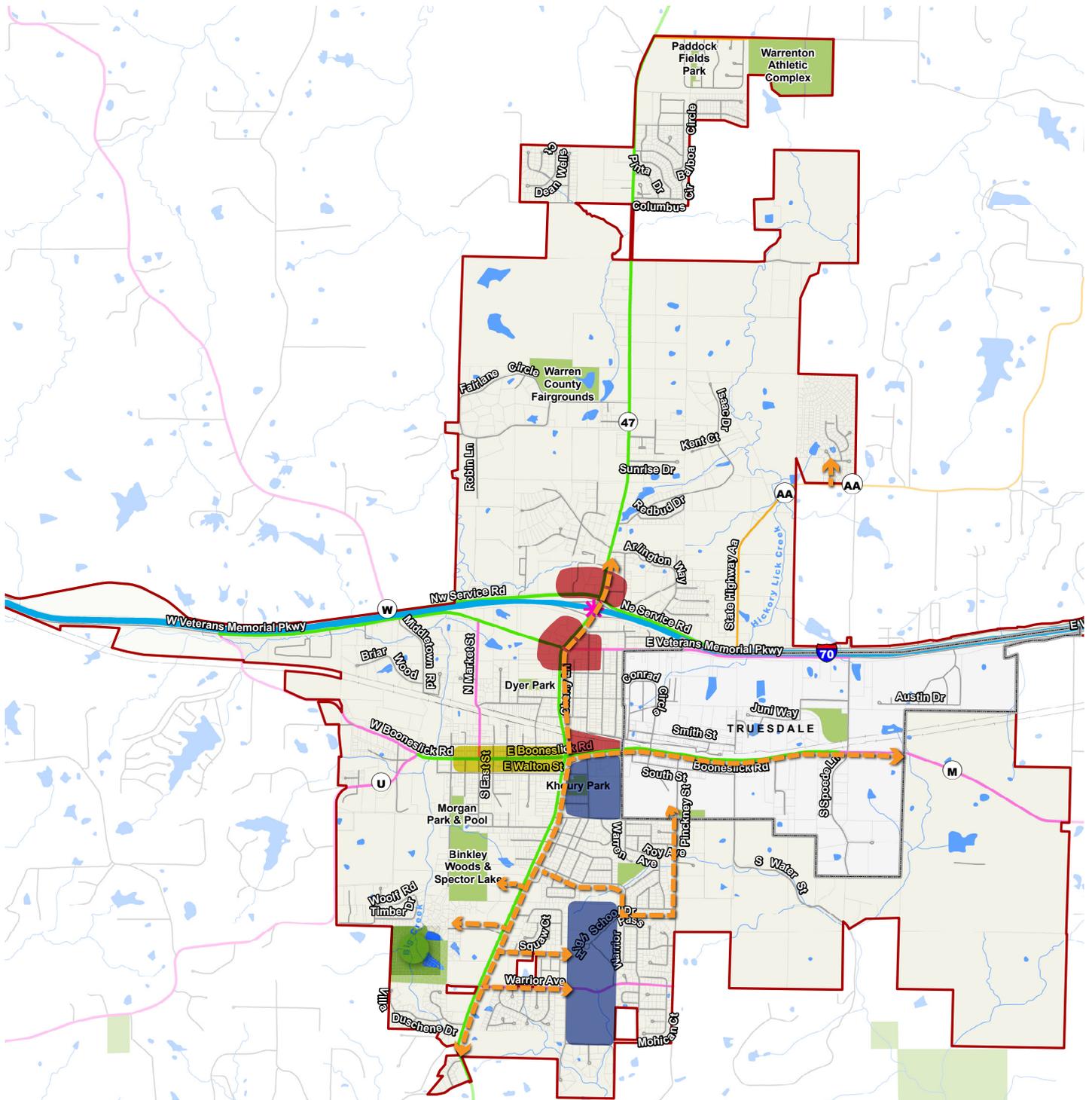
Walkability Studies:

It is recommended that the City implement a policy of requiring that "Walkability" Studies, along with typical Traffic Impact Studies, be required when all new developments are considered. These Walkability Studies would identify and evaluate pedestrian paths to and from all likely destinations within one-quarter (1/4) to one-half (1/2) mile of each development and recommend improvements that must be made as part of the development agreement to accommodate pedestrians and bicycles.



Pedestrian Districts and Areas Map (2016)

Figure 19



Bike & Pedestrian Network

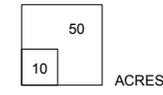
Pedestrian Districts

Future Connections

- Warrenton City Limits
- Truesdale City Limits
- Parcels
- Waterbodies
- Streams
- Parks
- Local Road
- Minor Collector
- Major Collector
- Minor Arterial
- Interstate
- Interchange
- Railroad

- Pedestrian District
- Commercial District
- School District

- Sidewalks / Bikelanes



vireo

Bicycling - Levels of Quality (LOQ):

LOQ are meant to show graphically how some streets work better than others for access, safety and mobility of bicycling.

www.walkable.org



Bicycle parking should be in a secure location close to entrances.

Bicycling Enhancements Tools

Warrenton can be made more bikeable by incorporating street design that encourages bicycling and makes it a pleasurable experience. Level of Quality (LOQ) standards measure bikeability of streets, bicycle ability, and traffic calming, developed by Dan Burden of "Walkable Communities." LOQ are meant to show graphically how some streets work better than others for access, safety and mobility of all modes.

Bicycling - Levels of Quality

The level of quality in the chart below, grades the quality of curb lanes, bike lanes, paved shoulders, multi-use trails, and crossings from very poor to exemplary.

Bike and Pedestrian Studies:

As the city grows and expands, it is recommended that the City conduct a Bike and Pedestrian Study to identify and evaluate pedestrian and bicycle paths to and from strategic destinations.

Send comments on use of these concepts in Virginia to info@tpdc.org

Bicycling -- Levels of Quality

Created by:
Walkable Communities
www.walkable.org

	A	B	C	D	E	F
	Exemplary	Excellent	Good	Fair	Poor	Hall of Shame
Wide Curb Lanes <small>Wide curb lanes increase comfort between motorists and bicyclists. Motorists desire to separate themselves 6.0 feet from bicyclists. Wide curb lanes give buses more space, and allow greater turning radii. Low speeds create greater comfort.</small>						
Bike Lanes <small>Bike lanes define and identify bicycling locations. Widths up to 6.0 feet are most comfortable. Colorization can help. Narrow widths next to parking are least comfortable. Speeds between 25-35 mph are most comfortable.</small>						
Paved Shoulders <small>Paved shoulders that are smooth and wide are most comfortable. Surfaces should be clean and smooth, with few driveways and other interruptions. Narrow shoulders can help, but are less comfortable.</small>						
Multi-Use Trails <small>Multi-use trails work well in paralleling high speed roads in access controlled environments. Trails can offer more scenic, quiet, and direct routes of travel. Widths can vary but must be designed to accommodate many users and user types.</small>						
Crossings <small>Crossings with low volume streets, where there are frequent pauses, good sight distances, good lighting, and medians or refuge islands are best. In some cases signals are essential or other controls are essential.</small>						

Traffic Calming Tools

The *Institute of Transportation Engineers* describes traffic calming as changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through volumes, in the interest of street safety, livability, and other public purposes. While traffic calming can occasionally use such physical measures to make traffic uncomfortable, thereby lowering traffic speeds, most traffic calming devices are meant to slow traffic in comfortable and often subtle ways.

Traffic calming measures should be considered at all pedestrian crossings to reduce vehicular speeds, increase driver awareness and help establish right-of-way for pedestrian users. Traffic calming measures, include but are not limited to: alternative paving materials, on-street parking, lighting, landscaping, reduced land widths, choke points, traffic circles or any combination thereof that reduce apparent street width and protects pedestrians from moving traffic. Using traffic calming at key corner locations will provide safer pedestrian crossings and better orientation for both pedestrians and drivers.

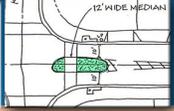
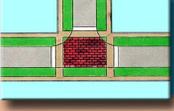
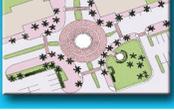
Traffic Calming - Intersection Tools

The intersection tools in the chart below, identifies a series of tools for use along Main Street or in neighborhoods. Developed by Dan Burden of "Walkable Communities,". They are meant to show graphically how some tools work better than others.

Traffic Calming-Intersection Tools:

These tools are meant to show graphically the added benefits and associated costs

www.walkable.org

Traffic Calming -- Intersection Tools					Created by: Walkable Communities www.walkable.org
Tool Description	Added Benefits	Cost / Other	Plan View		
<p>Curb Extensions</p> <p>Curb extensions are great tools for slowing speeds at intersections and midblock locations. They are often used in combination with other tools, such as refuge islands, or part of a modified intersection. They are very helpful to inset parking, meet ADA requirements and reduce pedestrian crossing times and distances.</p>	<p>Main Street</p>  <p>Helps protect and preserve sight lines, eliminates illegal parking, helps assure emergency responder access to critical streets. Can be used for emergency responder operations area. Use to create chokers, chicanes, neckdowns.</p>	<p>Neighborhood</p>  <p>Costs range from \$5-30,000 per corner. Costs are reduced if drainage is left open. This can increase maintenance costs, so these details must be worked out by a city/county team.</p>	 <p>Curb Extension</p>		
<p>Refuge Islands</p> <p>Refuge islands slow traffic in three ways. They visually tighten the road, slow turning speeds, and help create narrow channels. They separate conflicts, create 10' wide driving lane channels (when used with curb extensions), minimize pedestrian crossing conflict speeds.</p>	 <p>Minimum preferred width 8.0 feet. Best when landscaping is used to help motorists see treatment in advance. Keep ADA ramps at grade or with light crown for drainage. Use full width ADA ramps, and create 45 degree bend, if midblock.</p>	 <p>One of the most affordable tools. Does not affect drainage. Can be landscaped at added cost with or without irrigation. Used effectively in high pedestrian areas, such as schools, parks, stores.</p>	 <p>12' WIDE MEDIAN</p>		
<p>Modified Intersections</p> <p>Modified intersections take back unwarranted asphalt, returning it as green space. Often motorists turn too fast when curb radii were made too wide for safety. Some intersections can be turned into small parks, greatly increasing safety, beauty and a gateway appearance.</p>	 <p>Vastly improves sight distances. Helps many motorists get into difficult or unsafe intersections. Can serve as a small neighborhood park or gathering place, thus increasing association and security of the neighborhood.</p>	 <p>Very popular as a gateway to a neighborhood, or any place where excessive asphalt exists. Very high return on investment, especially where pedestrian crossings are risky. Avoid ugly temporary treatments.</p>			
<p>Raised Intersections</p> <p>Raised intersections provide a colorful vertical intersection effect. They slow traffic in three ways. First they create an attractive, distinct shape. Second, they create a vertical deflection forcing a low speed approach. Third, they highlight the area as a pedestrian space.</p>	 <p>Can be used with very tight and narrow intersections. Used where roundabouts cannot fit. Highly attractive. Requires good coordination with engineering, landscaping and architectural specialists.</p>	 <p>Very popular as a gateway to a neighborhood, or any place where excessive asphalt exists. Very high return on investment, especially where pedestrian crossings are risky.</p>			
<p>Roundabouts, Mini- Roundabouts</p> <p>Roundabouts and mini-roundabouts are the most effective and popular traffic calming feature. These horizontal deflection tools lower speeds to 15-20 mph, shorten pedestrian crossings to 12-14 feet at a time, decrease injury crashes about 90%, reduce noise and pollution, and increase area property values.</p>	 <p>Roundabouts are excellent for entrances, intersections near schools, parks, gateways to downtowns, and many other locations. Always consider any time a signalized intersection is being funded.</p>	 <p>Great range in costs. Mini-roundabouts can be \$10-50,000, while roundabouts can be \$50-500,000 for many sizes. Greatest safety benefit of all traffic calming tools.</p>			



Roadway Maintenance.

FUNDING

Funding, or specifically, lack thereof, is a key concern for not only the City of Warrenton, but the State of Missouri. The main thoroughfares within the City of Warrenton are owned and maintained by MoDOT, and MoDOT and the City have traditionally been good partners regarding transportation infrastructure. However, due to unprecedented funding challenges with the State of Missouri, MoDOT simply will not be able to distribute necessary funds to provide capacity improvements at I-70 and Route 47, or other State owned and maintained facilities.

In 2014, a measure to introduce a $\frac{3}{4}$ cent sales tax to be utilized for transportation needs, particularly along I-70, was soundly rejected by the voters of Missouri. Even MoDOT's Cost Share Program, which has become a popular funding mechanism with local agencies, has been discontinued indefinitely, putting nearly all the financial burden on the local agencies if transportation improvements are desired. MoDOT's 325 Plan suggests that the State budget for transportation will drop to \$325M by 2017, and will not even be enough to complete basic maintenance of the existing system. The Missouri Legislators have acknowledged the budget shortfalls, and have had discussions relating to a 2% gas tax increase for the next three years (SB540); however, action was not taken during the most recent session. The Governor has reintroduced discussion relating to tolling I-70 as a means to rebuild the highway between Independence and Wentzville.

As the City moves forward with their transportation planning, it is essential that the leaders continue to work with the community to identify what the needs are and to receive invaluable input. The planning efforts should be prioritized to develop a sustainable plan to achieve growth. Funding of transportation infrastructure is a nationwide epidemic, and the City should continue to work to identify future funding partnerships or opportunities with MoDOT, Warren County, Boonslick Regional Planning Commission, and private developers.



Roadway Maintenance.

Alternatives:

Partnerships with local business groups and community organizations are essential to ensure that special streetscaping associated with connecting corridors and other infrastructure are properly maintained. The City should institute a variety of tools to allow business and residential property owners to assist in constructing and maintaining the infrastructure and amenities developed.

Voluntary Districts

Local Improvement Districts (LIDs), Local Maintenance Districts, Business Improvement Districts (BIDs) and other special districts can be used to construct and maintain infrastructure such as streets, adjacent streetscaping, curb and gutters, water and drainage utility systems, sidewalks, and alleys. These programs usually require landowners to agree to a special property tax assessment, which are used to fund the improvements.

The ability to apportion the cost of improvements to more than one property owner and the ability to spread costs over time are two of the biggest advantages of improvement districts. In addition, these districts may be able to benefit from lower cost public financing (this may require voter approval). The larger, more expansive LIDs and BIDs also allow property owners who are unfamiliar with construction, contracting, engineering, or financing to rely on the City to undertake the process for them. The City can act as an agent to manage the project's design and construction.

Impact Fees

In addition to these voluntary measures, demands for capacity improvements can be fulfilled through developer impact fees. This funding mechanism is commonly used to offset the costs required to serve new development. When new development comes to a community, a number of services are required to serve them; including roadways, water lines, sewer facilities, schools, parks, fire stations, libraries and police stations. Throughout Missouri, a number of cities are considering impact fees.

Prioritization Process & STIP

MoDOT's 2011-2015 Statewide Transportation Improvement Program is prepared annually and sets forth the specific construction projects MoDOT will undertake in the next five years. It covers highways and bridges, transit, aviation, rail, waterways, enhancements and other projects.

At least once a year, each MoDOT district asks for the needs of the area in a prioritized listing. Localities Transportation Advisory Committee (TAC) plays a key role in how transportation needs are prioritized. At times, MoDOT may call upon the TAC to prioritize project for a certain pool of funds or grant activity. These needs are evaluated by MoDOT to find the best solutions based on engineering, public input and financial considerations. Projects must then be prioritized to determine how they fall into the Statewide Transportation Improvement Program (STIP). The City of Warrenton is an important stakeholder on the Boonslick Regional Planning Commission TAC.



