Cascade Township

Village Area Complete Streets Plan

February 2014

progressive ae

LSL Planning, Inc.

Cascade Township Village Complete Streets Plan

Acknowledgements

Cascade Village Steering Committee:

- Cascade Charter Township
- Cascade Township DDA

Kent County Road Commission staff

Other Stakeholders and Area Residents

Project Consultant Team:

- Progressive AE
- LSL Planning

The Township would like to thank the many interested residents, business owners, public officials and agency staff that provided input at the public open house and committee meetings.

February 2014

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Cascade Charter Township
Kent County Michigan
Complete Street Resolution
Resolution 12 of 2014

WHEREAS, "Complete Streets" are defined as a design framework that enables safe and convenient access for all users, including pedestrians, bicyclists, transit riders, and drivers of all ages and abilities; and

WHEREAS, "Complete Streets" are achieved through planning, design, construction and maintenance of a transportation system that improves travel conditions for bicyclists, pedestrians, transit, and freight in a manner that preserves local character; and

WHEREAS, a transportation system that supports safe, active, and ample space for vehicles, pedestrians, and bicycles are more conducive to the public life and efficient movement of people than streets designed primarily to move automobiles; and

WHEREAS, increasing active transportation (e.g., walking, bicycling and use public transportation) offers the potential for improved public health, economic development, a cleaner environment, enhanced community connections, and more livable communities; and

WHEREAS, The Township has adopted a Complete Streets Plan for the Township, in part to comply with the elements required under Public Act 134 of 2010 Section 33(b)(i) and to prepare a document that will help the Township plan for projects that will improve the travel environment for all users.

NOW, THEREFORE, THE TOWNSHIP OF CASCADE RESOLVES, The Cascade Township Board of Trustees hereby declares its support of "Complete Streets" policies, as generally suggested in the Cascade Township Complete Streets Plan; and

BE IT FURTHER RESOLVED, It is the intent of the Township to work cooperatively with any agency that can assist with or whose approval is necessary to implement this policy, including but not limited to the State of Michigan Department of Transportation, and the Kent County Road Commission.

The foregoing Resolution was offered by Board Member Goldberg, supported by Board Member Goodyke. The roll call vote being as follows:

YEAS: Koessel, Lewis, Peirce, Beahan, Goodyke, McDonald, Goldberg
NAYS: None
ABSENT: None
RESOLUTION DECLARED ADOPTED.

Ronald H. Goodyke
Township Clerk

CERTIFICATION

I hereby certify the above to a true copy of a resolution adopted by the Cascade Charter Township Board at a regular meeting held at the Cascade Library Wisner Center on the 26th day of March, 2014, at 7:00 p.m., pursuant to the required statutory procedures.

Dated: March 26, 2014

Ronald H. Goodyke
Township Clerk

Introduction

The Village area of Cascade Charter Township has developed and constructed numerous improvements over the years to provide a more vibrant environment for the various businesses and the public in general. Streetscape and pedestrian-related projects made along Cascade Road, 28th Street, and Old 28th Street have significantly improved the overall aesthetic nature of this subarea. However, the regional nature of roadways such as 28th Street and Cascade Road have constrained efforts to provide better non-motorized connectivity between the various sections of the village area and truly provide a more complete, accessible, and safe environment for all of its users.

The primary goal of this village area complete streets plan is to blend the ideas and input obtained from the community stakeholders with "best practices" utilized nationally and even internationally. This helps ensure that the plan meets required design standards, considers safety, is innovative, and perhaps most importantly, can be implemented. A number of factors currently present challenges to a fully functioning multi-modal transportation network that works equitably for all modes of transportation. Included in these is the presence of the two regional roadways, Cascade Road and 28th Street which intersect within the confines of the village area. These roadways primarily serve motorized transportation, and are less conducive to non-motorized travel. In effect they divide the Village into different segments, each with little cohesion, especially in the case of Cascade Road. Shifting the focus from motorized travel to one that considers travelers of all types, ages and abilities through a complete streets approach will inherently help address these roadway crossing issues and slow travel speeds.

This plan provides a framework for moving all modes of transportation safely throughout the village; whether in vehicles, by foot, on bike or on public transportation. In addition, the plan addresses priorities for implementation, with related rough costs and potential funding sources identified.

The following chapters outline the underlying of complete streets, the process of the plan development, and the final recommended plan elements.

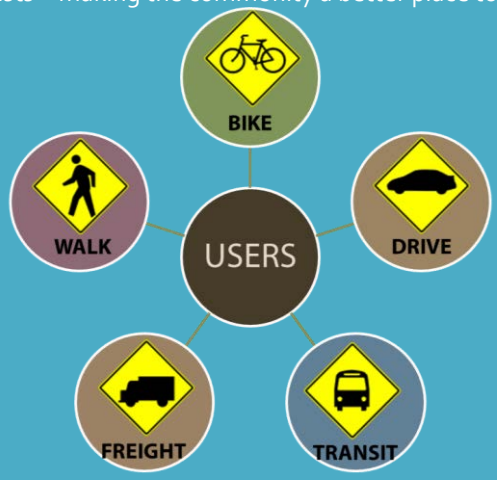
Complete Streets – What is it?

Historically, transportation decisions were made primarily to improve traffic flow and reduce vehicle crashes. While such efforts have resulted in improved safety on Michigan roads, they often overlooked the needs of pedestrians, bicyclists and transit riders. Current approaches now recognize that roads are more than just places for cars to travel; they represent important connections within a community, provide routes for travel and commerce, and influence the first impression that helps shape the community's image. This approach, often called Complete Streets, acknowledges that roads should still be preserved for their intended function, but they should also be designed to accommodate everyone who might use road rights-of-ways, such as bicyclists, pedestrians, transit riders, and as well as those with a variety of ability - from children, to the elderly, to the disabled – all need safe and varied routes to accommodate their individual travel needs.

WHAT IS COMPLETE STREETS?

Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations.

Creating Complete Streets means transportation agencies must change their approach to community roads. This means that every transportation project will make the street network better and safer for drivers, transit users, pedestrians, and bicyclists – making the community a better place to live.



Different people have different travel needs and desires. Some people walk faster than others, some are comfortable using bike lanes, while others prefer separated paths. Most pedestrian needs are similar in nature, meaning most that travel on foot are moving at similar rates of speed and typically require the same amount of space to be comfortable. In other words, a sidewalk that feels comfortable to one pedestrian is likely to feel comfortable to most others. On the other hand, not all bicyclists are comfortable using all types of facilities. Therefore, the transportation system needs to provide travel options for a wide range of people of various ages, of various skill and confidence levels, at a variety of travel speeds, including those with temporary and long-term physical and cognitive abilities, or those using mobility assistance devices (scooters, segways, etc.) or pushing strollers and wheelchairs.

Revisions to Act 33 (Michigan Planning Act) that were effective by August 2010 provided better impetus for communities to address complete streets needs within their planning processes. The revised act:

- Provides an expanded definition of "streets" to include all legal users;

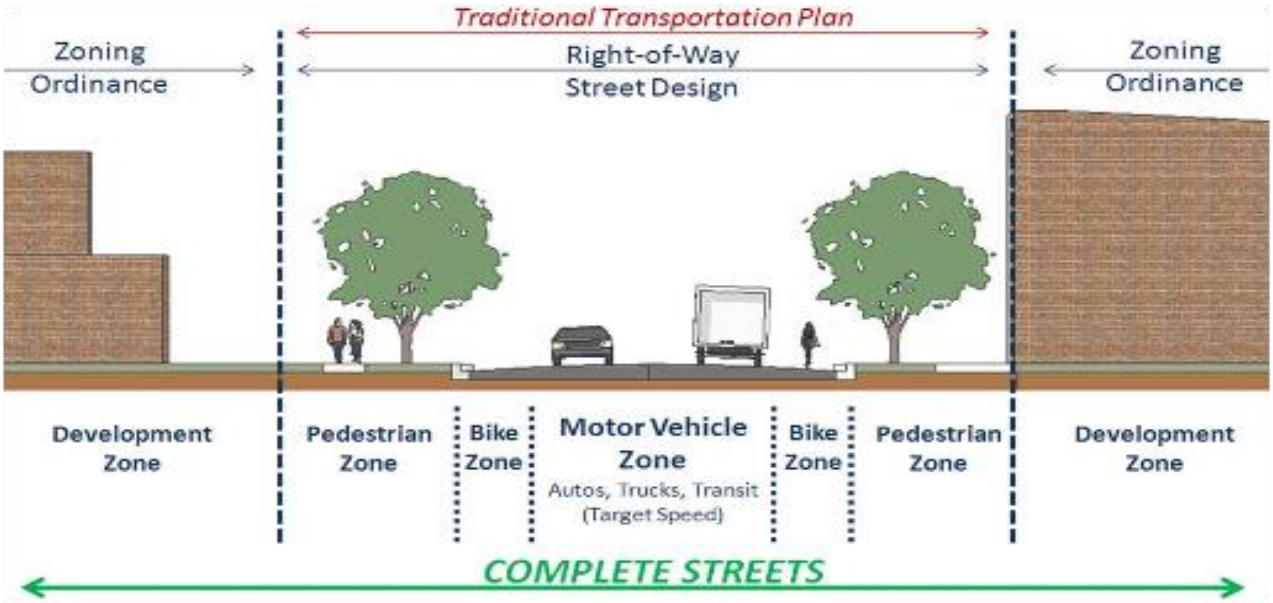
- Expands elements that may be included in a master plan to include all forms of transportation;
- Specifies that transportation improvements be appropriate to their context; and
- Specifies cooperation with road commissions and/or MDOT as applicable

COMPLETE STREETS IMPACTS

The following is a brief discussion about how road design can impact downtown character as well as mobility and safety for all users.

- **Roadway and Lane Width.** Road design influences traffic flow and speed. Wider roads generally carry more traffic at higher speeds. Narrower roads are often easier to cross, often encourage traffic calming and create more intimate settings. In fact, the design of roads has been shown to be more effective at changing driver speeds than posting slower speed limit signs. Design elements like medians, curb bump-outs changes in pavement materials or markings at intersections, and other "traffic calming" techniques can help slow vehicles to speeds more appropriate for areas with pedestrian or bicycle activity.

  Lane width may have similar influences. Lanes that are eleven feet wide may result in slightly lower speeds than lanes that are twelve feet or wider without any measurable loss of capacity or change in safety.



- **Intersections.** Intersection design, and their connection (or lack of) to local businesses by way of a continuous well maintained sidewalk, will also determine how easy or difficult it will be for pedestrians or those with disabilities to cross and access areas along the corridor. Currently, there are some gaps in the sidewalk system and relatively long distances between crossings along Cascade Road, 28th Street and Old 28th Street.

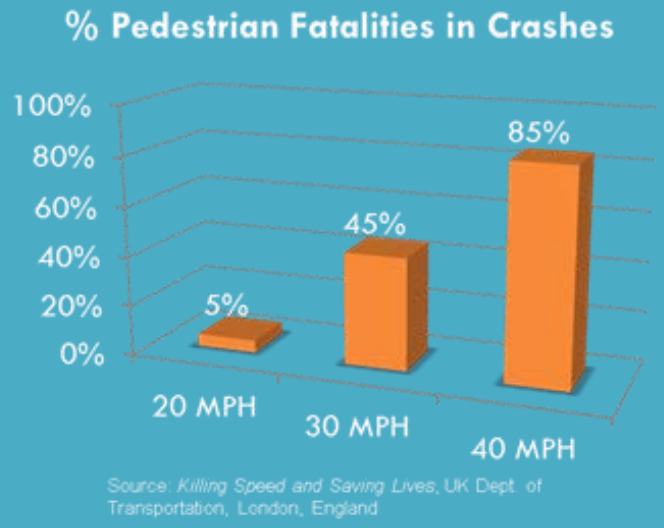
- **Land Use.** The design of roads, in combination with the character of buildings and sites shapes the resulting activity that takes place along Cascade Road. Existing development is more suburban in nature, with front yard parking lots and larger front setbacks. Traffic volumes along Cascade Road have also influenced the types of land use and businesses that desire to locate there. Implementing complete streets considerations will help better match land use policies to transportation policies so they collectively and consistently contribute to the desired community character.

- **Stormwater.** Road surfaces contribute runoff to stormwater collection and treatment systems. Road design can include low impact drainage techniques that focus on applications modeled after nature, rather than costly infrastructure and water quality restoration systems. In addition, the width of roads will determine the amount of runoff that must be collected or treated, so narrower roads can help minimize impacts.

- **Non-Motorized.** Non-motorized facilities are an important component of the transportation system. If a road includes sidewalks and amenities for non-motorized users, they can reduce crash potential, provide alternative travel routes, and provide important connections between neighborhoods, schools, parks, offices, and retail destinations. Recognizing the various needs of the different users, local streets should be designed to accommodate the types of users that are expected. Pedestrians usually prefer a separated sidewalk or pathway, and bicyc comfort and experience. Typically, bikers fall within one of three comfort levels: 1) advanced bikers will usually use in-street bike lanes that allow them to bypass pedestrians and travel at a faster speed; 2) the more common biker is more conservative, and will ride in bike lanes only when they feel it is safe and convenient; and 3) the cautious biker is not likely to use in-street facilities at all and will opt to ride alongside the roadway, even if separate facilities do not exist.

WHY IS TRAFFIC SPEED IMPORTANT?

Research shows that a pedestrian or bicyclist hit by a vehicle traveling 20 mph or less has an 95% chance of survival while only about 55% survive as collision with a vehicle traveling 30 mph (and only 15% if 40 mph or greater).



KEY ELEMENTS OF COMPLETE STREETS

- ***Sidewalks.*** Sidewalks are the most commonly used facility for pedestrians and less experienced bicyclists. Studies show that more bicycle accidents occur when bicyclists use a sidewalk because they are less visible to motorists when they are separated from traffic, so other facilities should be considered for bicyclists. For pedestrian use, sidewalks are typically five feet in width, and paved with a hard surface like concrete or asphalt.
- ***Separated Pathways.*** Pathways, including 8- to 10-foot wide pathways along a street sometimes intended to be shared by pedestrians and bicyclists, trails or greenways, are off-road, multi-use transportation networks.
- ***Mid-block Crossings.*** Sometimes an enhanced pedestrian crossing can facilitate access across the street at unsignalized locations. Elements like pedestrian refuge medians within the roadway, pedestrian-activated traffic signals or flashers, pavement striping and signage can be used to improve safety and comfort for all users.
- ***Bike Lanes.*** Striping is the most common method of identifying bike facilities. Often implemented as part of a road diet, bike lanes are narrow lanes within the paved portion of the roadway that are striped and marked or colored to indicate their separation from vehicular travel lanes.
- ***Road Agency Coordination.*** While this plan sets forth the ideas, vision and recommendations for the Township, many of the changes discussed cannot be completed without support from other road agencies. Cascade Road, as with most local roads, falls under the jurisdiction of the Kent County Road Commission (KCRC). Therefore, the Road Commission will play a large role in the success of this plan. As part of the Michigan Planning Enabling Act, communities planning for public streets must coordinate with other road agencies.

In summary, the underlying benefits of a complete street include:

- Improved safety for pedestrians and cyclists
  - Sensitive design results in fewer and less severe crashes
- Encourages walking and cycling for health
  - More active lifestyles and increased mobility
- Environmental improvements
  - Reduced greenhouse gas emissions
  - Reduced carbon footprint
- Lower long-term transportation costs
- Quality of life

…this cube represents one ton of CO2, or what the average American puts into the atmosphere every 2 days…

- More attractive streets and places translates into more business
- Supports economic competitiveness, growth, and business investment opportunities
- Fosters a stronger community
- Can improve property values

Project Process and Existing Conditions

The process for developing this Village area complete streets plan was predicated on generally accepted planning practices and in reflection of past master planning and other planning efforts completed by the Township. Although the Plan resulted in development of a wide variety of recommendations, the primary goal as stated by the Township and stakeholder groups was to make non-motorized crossing of Cascade Road more accessible, convenient and safe.

The process included the following basic tasks:

1. Identify the primary goal(s) and vision
2. Identify opportunities and needs
3. Analyze the current conditions to add to and/or confirm issues and constraints
4. Develop alternatives
5. Define an action plan/set of priorities

As identified early in the process, the vision for this complete streets plan was to develop a collaborative set of elements based upon the following:

- A "Complete Streets" philosophy that considers the needs of all users: residents, seasonal residents, fitness enthusiasts, bicyclists and pedestrians of all ages and abilities. However, those needs still have to be balanced with the need for a safe and convenient system for cars and trucks too.
- A transportation system that complements and reinforces the character of the Village area, its quality of life, and the economic environment.
- Road design that results in reduced speeds on Cascade Road within the Village subarea.
- Coordination with the Township, DDA, the Kent County Road Commission (KCRC) staff and other organizations in the area that have data or information to share and/or whose support and buy-in will be critical to the success of the plan.
- An implementation program with priorities and phasing along with a menu of potential funding sources.
- A focused effort that included a series of meetings and a workshop.

Critical Tasks

There are many critical subtasks that were completed as part of the plan development process including data collection, review of past documentation, Village area reconnaissance, and development of initial/preliminary complete street recommendations. However, the most important process element carried throughout the plan process was engaging the numerous private and public stakeholders for input and feedback. Without such input the plan would not truly reflect the needs of those who experience the village area on a daily basis.

To that end, meetings were held as follows during the plan development process:

- Kick-off/brainstorming session with Township staff and DDA members
- Initial meeting with KCRC staff to discuss general viability of complete streets tenets and initial ideas, particularly regarding Cascade Road
- Township/steering committee review of preliminary plan
- Community public open house presentation
- Follow up meeting with the KCRC

Of special note was the need for early and "mid-term" input from the Kent County Road Commission (KCRC) given their jurisdiction of the study area roads. Their input was key to identifying constraints along the corridor and opportunities they are willing to explore and accept. For example, through KCRC's input, it was determined at the outset that a desired conversion of Cascade Road to a three-lane cross section (thereby providing for slower vehicle speeds and room for bike lanes) was not possible due to the existing and projected high traffic volumes on Cascade, a determination easily supported by national criteria. Also, it was established that bike lanes on Cascade within the existing curb lines are not feasible due mostly to the current overall width and ongoing need for a center left-turn lane However, other elements like one or more mid-block crossing were determined to be a feasible element of the plan. These initial findings and input provided throughout the process, helped to narrow the range of possibilities and focus the plan on the key, implementable ideas.

Existing Conditions

Existing Street/Pathway Network

The Village area currently encompasses a variety of street types and functions, dominated by regional roadways such as Cascade Road, 28th Street, and Thornapple River Drive. Other streets

such as Old 28th Street, and to a lesser extent, Orange Avenue and Hurley Street, provide vehicular access and circulation to local businesses and residents. All of the public roads within the study area fall under the jurisdiction of the KCRC.

Their (KCRC) input was key to identifying constraints along the corridor and opportunities they are willing to explore and accept.

Cascade Road. Cascade Road is a county primary and regional arterial within the greater Grand Rapids metropolitan area. Within the Village area it carries approximately 20,000-25,000 vehicles on a weekday and has a 40 mile-per-hour speed limit on its predominantly five-lane cross section. Defined pedestrian crossings are currently limited to its two, signal-controlled intersections with 28th Street and Thornapple River Drive. Five to six-foot wide sidewalks are provided on both sides within the central part of the Village area but are limited north of 28th Street and south of the river (east side sidewalk transitions to bike path north of 28th Street).

Thornapple River Drive. Thornapple River Drive is also a county primary roadway servicing the township and others to the northeast and southwest of the Village area. It has a two-lane cross section for the most part although it widens to three lanes at/near Cascade Road. Thornapple River Drive carries approximately 8,500-9,000 vehicles per day east of Cascade Road and about 5,000-5,500 west of Cascade Road. It has a 30-35 mile-per-hour speed limit within the Village area, and currently has very limited sidewalks/paths.

28th Street. 28th Street within the Village area is the eastern/last section of this regional arterial and has a boulevarded 4+ lane cross section within the area. It carries approximately 16,000-20,000 vehicles on a weekday at this eastern end and has a 45 mile-per-hour speed limit. Sidewalks are provided on both sides of 28th Street.

Old 28th Street. This short county primary collector street has a three-lane cross section and largely serves the adjacent commercial/service businesses. Direct left turns from Old 28th to either 28th Street or Cascade Road are not allowed (via signage and boulevard geometry). Old 28th Street carries approximately 4,000-5,000 vehicles per day, and has a 25 mph speed limit. A sidewalk is provided along the south side only.

There is currently no fixed route bus service provided by The Rapid within or near the village area.

Complete Streets Plan

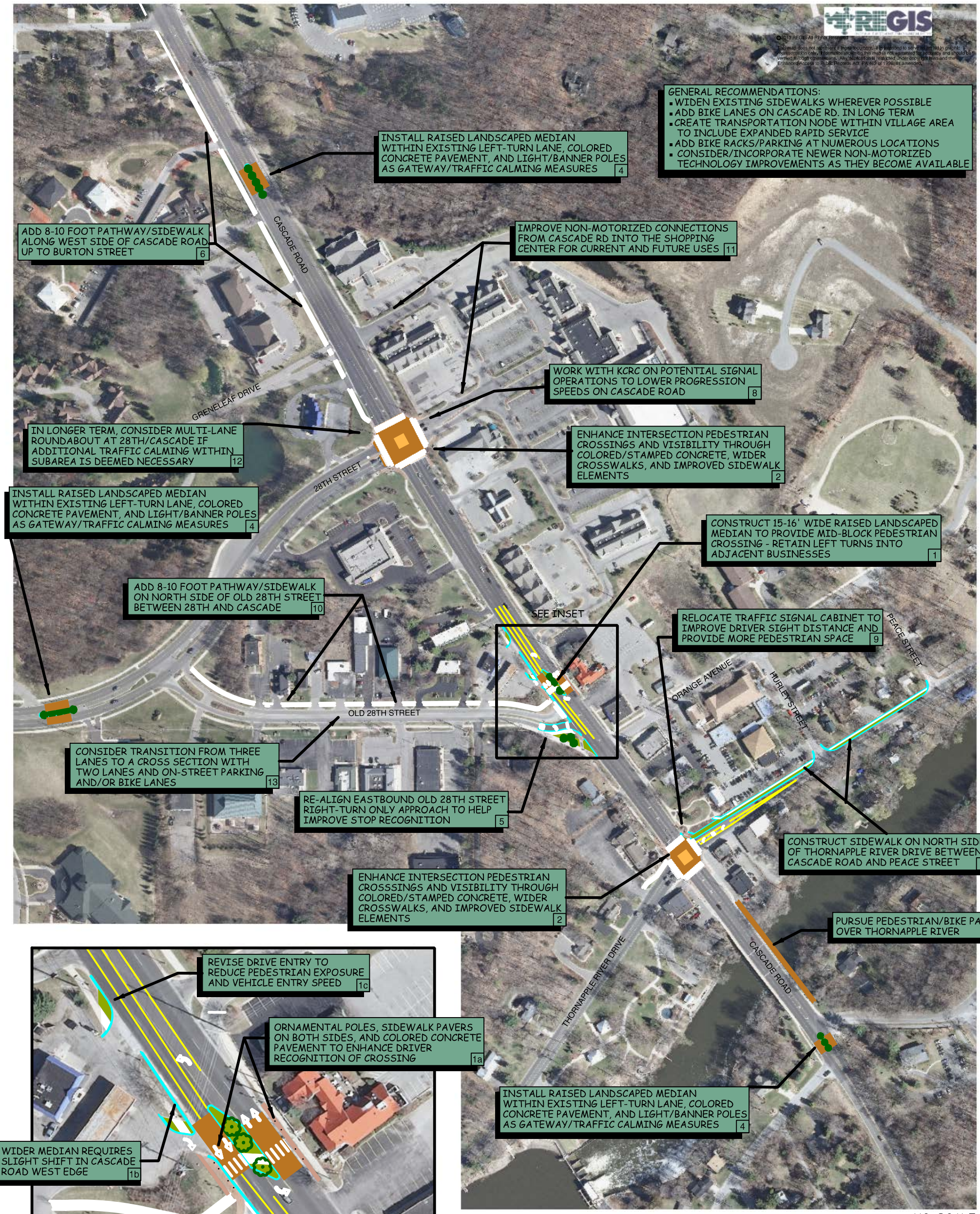
Based upon the existing street and non-motorized network, review of current local and national complete streets elements, and input/feedback received from the community stakeholders and the KCRC, the Village complete streets plan was developed. Although many needs were identified and discussed during the process, the primary goals were refined to the following:

- Provide improved pedestrian/bicycle crossing alternatives across Cascade Road;
- Provide improved driver recognition of the Village area as a multi-modal zone; and
- Expand upon the existing non-motorized system within the Village area.

The overall plan shown on the following page incorporates many elements of a desired complete streets program in addition to some system revisions that will allow the corridor to function more safely and efficiently. As shown, the recommended plan elements are numbered to provide a suggested priority for implementation. The elements have been generally categorized as short and long term in the sections below, with very rough initial cost estimates included for the short term elements. These cost estimates are general in nature, and are intended to give an understanding of the scope of work that may be needed to achieve each project. Actual costs will vary based on detailed plans and engineering that may be developed at a later date.

Short Term Recommendations

1. *Mid-Block Pedestrian Crossing on Cascade*. Seen as the key element to improving non-motorized connectivity between either side of Cascade Road, this improvement will provide a safer crossing at the current Cascade/Old 28th intersection. Its specific location was designed to include:
   - A crossing location closest to the Old 28th alignment to provide the best use by/for crossing pedestrians/cyclists, particularly from those going to/from uses on Old 28th or those just south of the intersection on Cascade;
   - A15+ foot wide raised median island to provide for safe and adequate storage for pedestrians and cyclists;
   - Retention of good access/egress to the adjacent businesses;
   - Vertical landscaping elements (without affecting sight distance) to increase the median's visibility and recognition by approaching drivers on Cascade Road;
   - Local widening of Cascade Road on its west side to incorporate the island's width



NO SCALE

N

COMPLETE STREETS PLAN

CASCADE TOWNSHIP VILLAGE AREA

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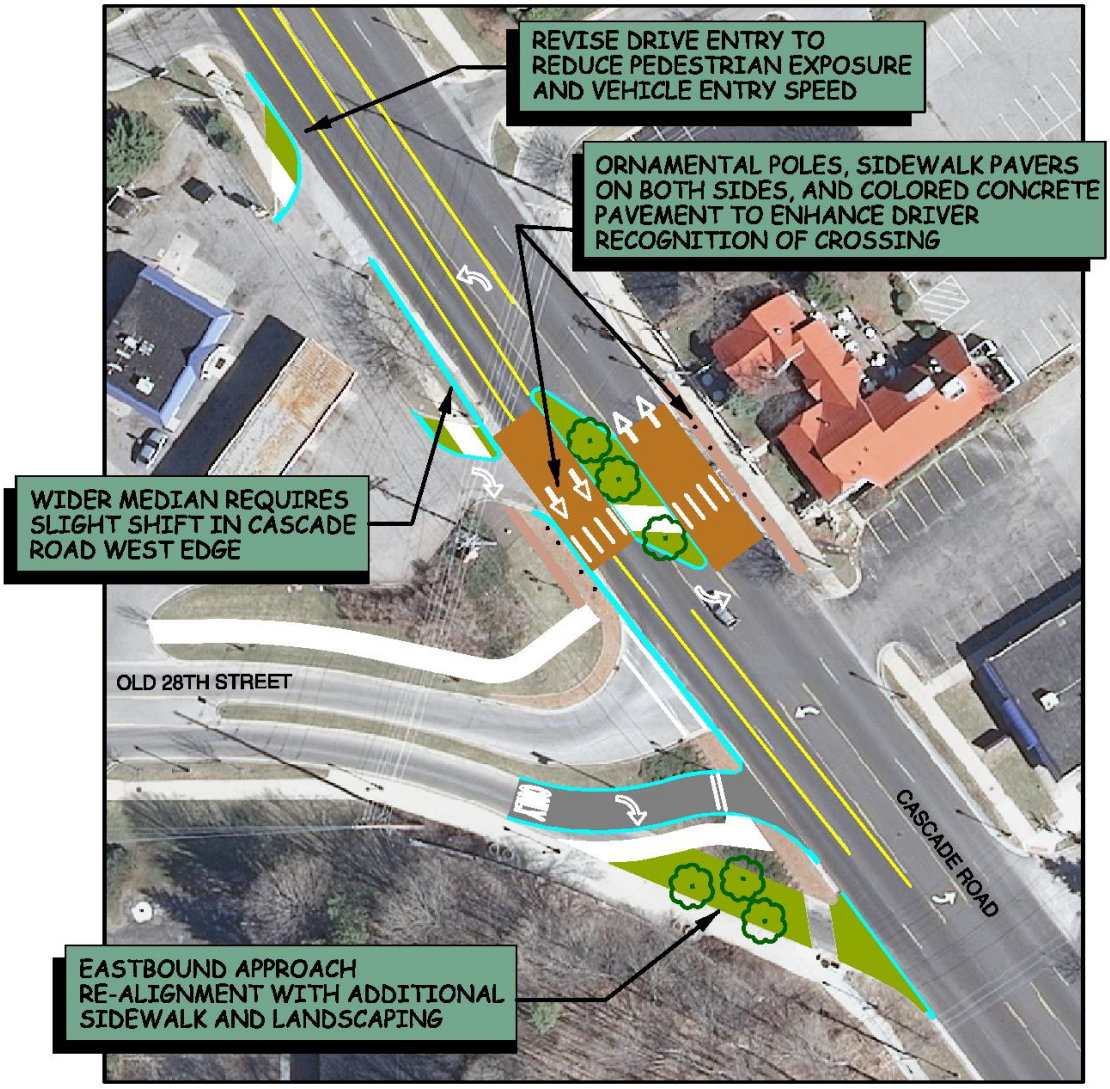
LSL Planning, Inc.

- Additional vertical measures such as banner poles on each side of Cascade Road;
- Use of colored/stamped pavement adjacent to the median island to further increase recognition as a special zone; and
- Adjustments to adjacent access point(s) as needed to reduce pedestrian exposure, slow entering speeds.

Rough Cost: $121,000



Some suggest the recommended raised crossing island location will adversely affect the adjacent gas station business by reducing access/egress options. However, regardless of the island, that site will still retain three driveways, two of which will continue to allow all turning movements. In most cases, that would be seen as very good access. However, if the island location is determined by the township to be inappropriate, it may be possible to shift it further north if needed, with the understanding that it may have a negative effect on the crossing's use by pedestrians and cyclists.

2. *Intersection Enhancements*. At both the Cascade/Thornapple River Drive and Cascade/28th Street intersections the recommendations include replacing the pavement within the intersection to a colored and stamped pavement to help define a special zone. Improvements would also incorporate wider crosswalks using more predominant crosswalk markings, upgraded sidewalk ramps and connections, and potentially a different pavement color or icon in the middle of the intersection. *Rough Cost: $95,000/$180,000*

3. *Sidewalk on Thornapple River Drive (TRD)*. Discussions regarding this sidewalk extension were already in the works at the outset of this plan process. This improvement along the north side of TRD for two blocks east of Cascade Road will provide better/safer environment for pedestrians/cyclists within this short village area to/from the businesses near the Cascade/TRD intersection and connections to the north and south. *Rough Cost: $ 100,000*

4. *Gateway Raised Median Sections*. Raised landscaped median sections are recommended for three "gateway" locations at the edges of the village area. Two are located at the north and south entry areas on Cascade Road, with the third located on 28th Street just west of Old 28th. The primary goal of these is to help with traffic calming (potentially slower speeds) and to enhance recognition by drivers that they are entering an area of focused non-motorized activity. All three of these were located/designed based upon available left turn lane space as there are significant constraints created by the need for left turns into adjacent land uses or public streets. To further enhance the driver recognition, these elements also include the replacement of adjacent pavement sections with colored/stamped pavement. *Rough Cost: $ 125,000 (total for three)*

5. *Re-aligned Old 28th Approach to Cascade Rd*. This improvement's primary focus is to reduce the speeds at which eastbound drivers are approaching and entering southbound Cascade Road, often without stopping (or even slowing much). This creates a safety concern for both motorized and non-motorized users. The recommendation is to slightly adjust the approach angle to be closer to a 90-degree turn, although still angled to some degree to help confirm its right-turn-only function. Additional landscaping and sidewalks/paths would be included in place of the pavement removed due to the new alignment. *Rough Cost: $45,000*

6. *Expanded Sidewalk – Cascade Road north of 28th Street*. To help improve connectivity to/from the commercial and residential uses on the east side of Cascade north of 28th Street, the sidewalk system should be extended to the extent possible in the short term, and even

further (to Burton Street) in the longer term. New sections should be 8-10 feet wide where possible. *Rough Cost: $ 108,000*

Longer Term Recommendations

7. *Walkway/Path over the Thornapple River*. The sidewalks that are part of the existing bridge on each side are narrow and force cyclists and pedestrians close to the adjacent through lane. These walks are fairly well used indicating a real demand to provide better connectivity to the residential areas to the south and east. It is recommended that the Township (in coordination with the KCRC) pursue a wider or preferably a separate sidewalk/pathway on one or both sides of the bridge. Further study will need to be done to define just what alternative is most applicable to this location.

8/9. *Existing Traffic Signal System Modifications*. Several traffic signal improvements were identified that could result in a better non-motorized environment without unduly affecting the efficiency of Cascade Road from a traffic perspective. Those include operational adjustments to reduce vehicle progression speeds within the village area, and physical improvements (like equipment relocation) that provide more room or better visibility for non-motorized users.

10. *Expanded Sidewalk – North side of Old 28th*. Although several of the businesses along this section of Old 28th are not pedestrian oriented, it is still important to expand the system to provide better connectivity between 28th Street and Cascade Road, especially given the location of the mid-block crossing on Cascade. Businesses should be encouraged to transition to those more pedestrian-related. Any new sidewalks should be at least 8-10 feet wide.

11. *Commercial/Retail Center Connections*. In addition to expanded systems parallel to the public streets, a key element for this plan is to consider improved non-motorized connections into the commercial center located on the east side of the Cascade/28th St. intersection. Sidewalks and/or pathways adjacent to one or more of the existing site driveways will create a more accessible and viable center for its many uses.

12. *Multi-lane Roundabout at Cascade/28th St*. Although roundabouts can be an deemed as an unpopular alternative initially, the fact remains that roundabouts are becoming more and more recognized and utilized nationally as a sound way to improve safety and slow traffic speeds in many applications. This is clearly a longer term alternative given the feedback received, but should nonetheless be considered. The Township and DDA underwent a feasibility study several

years ago that indicated a multi-lane roundabout would function well, but there remains understandable concerns, especially from a pedestrian/cyclist viewpoint. Comments during the stakeholder input stages of this plan and past comments indicated a significant concern regarding the ability of pedestrians and cyclists to safely cross a high volume, multi-lane roundabout.

13/Other. There are numerous other elements that should also be considered to develop a more complete streets environment within the Village area. Those include:

- Potential conversion of Old 28th Street to two lanes with bike lanes or on-street parking to slow traffic speeds and/or reduce cut-through traffic – may be tied to redevelopment of this short corridor;
- Widen existing 5-6 foot sidewalks along Cascade Road wherever feasible to allow more room for pedestrians and bikes, hopefully without the need for removal of the existing very aesthetic trees;
- Create/pursue a transportation node, likely within the above noted commercial center, that can also incorporate an extension of The Rapid system;
- Add bike racks/bike parking facilities throughout the village area;

In addition to the above recommendations, it is recommended that the Township continue to monitor other non-motorized/complete streets related elements (operational and/or physical) that may be applicable in the short or long term for the Village area that become accepted U.S. practice within the next few years.

Implementation

Funding Sources

Complete Streets policies make sense, both for improving transportation safety and comfort, but also for the community as a whole. However, achieving more complete streets can sometimes require more costly projects than some communities can afford. The following are some of the key funding sources that are most often used. Because the State of Michigan has led this initiative and encouraged communities to follow suit, it is expected that additional implementation resources and opportunities may arise as support continues to grow.

- **Congestion Mitigation and Air Quality (CMAQ) Improvement Grants.** The purpose of the Congestion Mitigation and Air Quality Improvement Program (CMAQ) is to fund transportation projects or programs that reduce transportation related emissions and contribute to attainment or maintenance of the national ambient air quality standards (NAAQS) for ozone, carbon monoxide and small particulate matter. CMAQ Grants can be used to fund:
  - Transportation activities in approved State Implementation Plans (SIP's) and maintenance plans are likely to be eligible.
  - Transportation control measures.

- Traffic flow improvements including traffic signal modernization, coordination, or synchronization projects designed to improve traffic flow within a corridor or throughout an area, Intelligent Transportation Systems (ITS), traffic management and traveler information systems
- Transit projects
- Bicycle and pedestrian facilities and programs
- Travel demand management
- Outreach and rideshare activities
- Fare/fee subsidy programs to encourage greater use of alternative travel modes (e.g., carpool, vanpool, transit, bicycling and walking)
- Establishment or operation of advanced truck stop electrification systems
- Improved transportation systems management and operations that mitigate congestion and improved air quality
- Purchase of integrated, interoperable emergency communications equipment
- Purchase of diesel retrofits that are for motor vehicles or non-road vehicles and non-road engines used in construction projects located in ozone or particulate matter non-attainment or maintenance areas and funded under 23 USC
- Outreach activities that provide assistance to diesel equipment and vehicle owners and operators regarding the purchase and installation of diesel retrofits

- **Special Assessment Districts (SAD).** Special assessments are compulsory contributions collected from the owners of property benefited by specific public improvements to defray the costs of such improvements. Special assessments could be used to assess properties receiving special benefits from roadway improvements. A special assessment district could be established by the Township Board.

- **Tax Increment Financing (TIF).** The Village area is incorporated into the Downtown Development Authority district, where a portion of tax revenues are captured and re-invested in the district to help maintain economic vitality in the downtown. Many, including the State of Michigan, believe this is an effective way to revitalize a district or corridor. Since businesses in the DDA would the primary benefactors of increased pedestrian and bicycle activity, DDA funding may be a reasonable tool to use to help fund improvements. Their participation in projects is voluntary, but the very purpose of the DDA is to invest captured taxes and funnel them toward improvements within the downtown district.

- **Transportation Alternatives Program (TAP) FUND.** The MDOT Transportation Alternatives Program (TAP) is a competitive grant program that funds projects such as non-motorized paths, streetscapes, low impact development, and stormwater improvements that enhance Michigan's intermodal transportation system and provide safe alternative transportation options. These investments support place-based economic development by offering transportation choices, promoting walkability, and improving the quality of life. The program uses Federal Transportation Funds designated by Congress for these types of activities.

Suggested Action Items

Cascade Township can begin to improve the transportation system through projects of various cost and scope as defined in the prior short and longer term sections of this summary. Larger implementation projects may require additional funding discussed above, but some can be achieved through changes in policy, cooperative initiatives, and preparation. The following are specific ideas that can help promote complete streets in Cascade Township:

1. Consider expanding the role of the Village Design Review Committee to include work with the KCRC on long term planning issues as well as reviewing potential shared or cooperative projects between adjoining businesses.
2. Adopt a Complete Streets Resolution (see example in the Appendix)
3. Incorporate recommended design elements in any private road standards
4. Require sidewalks along the frontage of property where connections can be made or are planned for greater pedestrian connectively in the area.
5. When a traffic impact study is done require that the analysis include level of service and improvements to address impacts for all users of the roadway , not just motorized vehicles.
6. Continue to review and modify the zoning ordinance where necessary to look for ways to improve pedestrian activity and presence. This may include allowance for outdoor venues, pedestrian connectivity between buildings, reduction of required off-street parking, credit for public spaces with private developments.
7. Modify the DDA where appropriate to address planned improvements.

APPENDIX

Village Area Complete Streets Plan
Cascade Township, Michigan

Progressive AE #60846001
February 2014

Cascade Charter Township
Kent County Michigan
Complete Street Resolution
Resolution __ of 2014

WHEREAS, "Complete Streets" are defined as a design framework that enables safe and convenient access for all users, including pedestrians, bicyclists, transit riders, and drivers of all ages and abilities; and

WHEREAS, "Complete Streets" are achieved through planning, design, construction and maintenance of a transportation system that improves travel conditions for bicyclists, pedestrians, transit, and freight in a manner that preserves local character; and

WHEREAS, a transportation system that supports safe, active, and ample space for vehicles, pedestrians, and bicycles are more conducive to the public life and efficient movement of people than streets designed primarily to move automobiles; and

WHEREAS, increasing active transportation (e.g., walking, bicycling and use public transportation) offers the potential for improved public health, economic development, a cleaner environment, enhanced community connections, and more livable communities; and

WHEREAS, The Township has adopted a Complete Streets Plan for the Township, in part to comply with the elements required under Public Act 134 of 2010 Section 33(b)(i) and to prepare a document that will help the Township plan for projects that will improve the travel environment for all users.

NOW, THEREFORE, THE TOWNSHIP OF CASCADE RESOLVES, The Cascade Township Board of Trustees hereby declares its support of "Complete Streets" policies, as generally suggested in the Cascade Township Complete Streets Plan; and

BE IT FURTHER RESOLVED, It is the intent of the Township to work cooperatively with any agency that can assist with or whose approval is necessary to implement this policy, including but not limited to the State of Michigan Department of Transportation, and the Kent County Road Commission.

The foregoing Resolution was offered by Board Member _____, supported by Board Member _____. The roll call vote being as follows:

YEAS:
NAYS:
ABSENT:

RESOLUTION DECLARED ADOPTED.

_____

Ron G
Township Clerk

CERTIFICATION

I hereby certify the above to a true copy of a resolution adopted by the Cascade Charter Township Board at a regular meeting held at the _____ pursuant to the required statutory procedures.

Dated: _____

_____

Ron G
Township Clerk

ADDITIONAL LANGUAGE TO USE IF HELPFUL

- Low Impact Development. Where a business expansion requires a driveway closure, use of porous pavement materials, penetrable curb, rain gardens, bio swales, and native street tree planters in place of paved areas can provide the same storm water management functions as a hardscape detention system, at less cost to the developer. These techniques, called low impact design, can also be implemented where sidewalk pavers are proposed or where development proposals impact land within the road right-of-way. At the same time these techniques increase development potential and reduce cost, they also improve the quality of water that eventually flows into drainage collection systems.

The Cascade Township Master Plan places a large focus on the intersection of 28th Street and Cascade Road as it's village center. Township planners have observed changing characteristics along these two corridors that threaten the village center character. The Plan proposes access management, mixed use, public park improvements, and a lower volume mix of uses for the downtown.

U.S. Department of Transportation
Federal Highway Administration

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Featuring developments in Federal highway policies, programs, and research and technology.

This magazine is an archived publication and may contain dated technical, contact, and link information.

July/August 2010
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Street Design: Part 1—Complete Streets

by Robin Smith, Sharlene Reed, and Shana Baker

From policy statements to programs and planning, opportunities abound for improving the accessibility of the transportation system for all users.

This intersection in Charlotte, NC, safely accommodates all road users, including motorists, transit riders, bicyclists, and pedestrians.

For decades, the purpose and goal of street design in the United States was to move as much motorized traffic as expeditiously as possible from point A to point B, regardless of whether the traffic was moving along a major freeway or commercial arterial, or through a city center, village main street, or even a residential neighborhood. Applied speed limits and street design standards would vary from route to route, but in general street design and traffic engineering were all about moving cars and trucks from their origins to their destinations. Even as early as the beginning of the 20th century, officials in New York City mandated the narrowing of sidewalks to create more numerous and wider lanes to accommodate motorized traffic. Pedestrians, planners thought, did not need much room to maneuver.

However, developing a transportation system primarily for motorized vehicular traffic has failed to meet the travel needs and preferences of large segments of the country's population. Among the many factors influencing the planning, design, and operation of today's streets are concerns about accommodating the needs of an aging population, improving public health and fitness, reducing dependence upon foreign oil, minimizing transportation costs, creating and maintaining vibrant neighborhoods, reducing the fossil fuel emissions that contribute to climate change, and adopting greener and more sustainable lifestyles. Ensuring that roads provide safe mobility for all travelers, not just motor vehicles, is at the heart of a new approach to envisioning and building surface transportation facilities known as "complete streets."

According to the National Complete Streets Coalition, established in 2005, complete streets are those designed and operated to enable safe access and travel for all users. Pedestrians, bicyclists, motorists, transit users, and travelers of all ages and abilities will be able to move along the street network safely.

"Complete streets policies help communities make a clear commitment to planning all future transportation projects to provide for the safe travel of everyone using the road," says Barbara McCann, director of the National Complete Streets Coalition. "Once that commitment is made, planners and engineers have a clear direction to develop new processes, design manuals, and on-the-ground solutions that welcome everyone."

Although the Federal Highway Administration (FHWA) does not have an official complete streets policy, the concept is closely associated with the principles promoted by the Interagency Partnership for Sustainable Communities, a joint endeavor involving the U.S. Department of Transportation (USDOT), U.S. Department of Housing and Urban Development (HUD), and U.S. Environmental Protection Agency (EPA). The partnership aims to provide more transportation choices; support existing communities through transit -oriented, mixed-use development and land recycling (that is, reuse of abandoned, vacant, or underused properties for redevelopment); and value communities by investing in healthy, safe, and walkable neighborhoods.

As stated by Transportation Secretary Ray LaHood, "President Obama has challenged us to transform the way transportation serves the American people by creating more choices and encouraging less carbon-intensive transportation, and we are working hard on that challenge...It turns out that a complete streets approach offers the perfect intersection of my twin guideposts: safety and livable communities."

In the first of a two-part series on street design, this article looks at how complete streets policies can help make the transportation system more accessible to all travelers. An upcoming article will focus on concepts and practices for designing streets to be more environmentally responsive and sustainable. Combining these two perspectives using a multidisciplinary approach will help maximize the effectiveness and sustainability of the Nation's transportation network.

Defining Complete Streets

Although the guiding principle for complete streets is to create roadways and related infrastructure that provide safe travel for all users, each complete street has to be customized to the characteristics of the area the street serves. A complete street also has to accommodate the needs and expectations of the travelers who want to access or pass through the surrounding neighborhood, community, or region.

According to the National Complete Streets Coalition, typical elements that make up a complete street include sidewalks, bicycle lanes (or wide, paved shoulders), shared-use paths, designated bus lanes, safe and accessible transit stops, and frequent and safe crossings for pedestrians, including median islands, accessible pedestrian signals, and curb extensions. Certainly, a design for a complete street in a rural area will look quite different from one in an urban or suburban area. For example, a complete street in a rural area could involve providing wide shoulders or a separate multiuse path instead of

sidewalks. The common denominator, however, is balancing safety and convenience for everyone using the road.

Transit, including bus and fixed-rail services, can become a more attractive option when access points that comply with the requirements of the Americans with Disabilities Act are integrated into roads, sidewalks, and parking areas to allow easier, safer access for all users.

In addition to the new USDOT-HUD-EPA partnership, many other programs at the Federal, State, metropolitan, and local levels already embrace the complete streets approach—or provide the framework to do so—and can help foster more livable communities. Below are a few examples.

This construction project in a rural area will widen the shoulder to accommodate nonmotorized traffic.

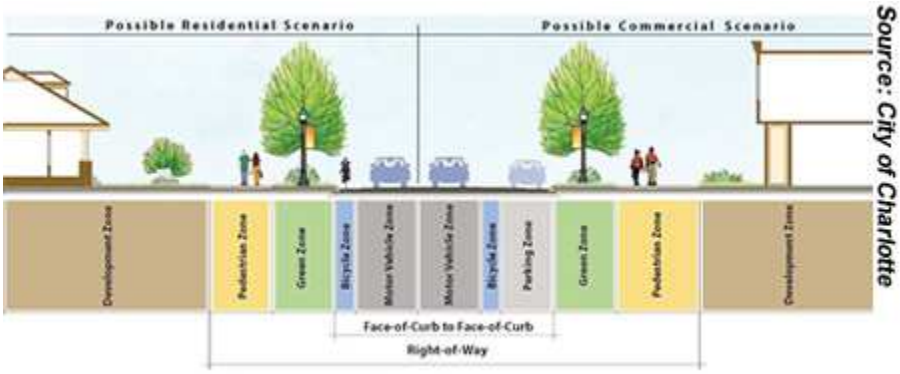
United States Code

Several Federal laws and FHWA regulations pertaining to transportation planning and project development support the concept of complete streets. A current Federal statute, United States Code, Title 23, Chapter 2, Section 217 (23 USC 217), mandates that "bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted." To elaborate on that requirement, FHWA developed bicycle and pedestrian guidance (available at

www.fhwa.dot.gov/environment/bikeped/bp-guid.htm) that further explains how and when FHWA requires or encourages accommodation of pedestrians and bicyclists in Federal-aid highway projects.

On March 15, 2010, Secretary LaHood announced the release of an updated "Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations." The policy statement reemphasizes USDOT's support for the development of fully integrated transportation networks and encourages States, local governments, and other organizations to adopt similar policy statements and commit to accommodating bicyclists and pedestrians in the transportation system. The policy statement also calls on transportation agencies and communities to go beyond minimum design standards and requirements to create safe, attractive, sustainable, accessible, and convenient bicycling and walking networks, and offers recommendations on how to do so.

The design and construction of bicycle and pedestrian facilities are eligible to receive funding through core Federal highway funding categories, such as the Surface Transportation Program, the National Highway System, and the Highway Bridge Program.



A complete street anticipates and accommodates the needs of all road users, as indicated in this diagram from Charlotte, NC's *Urban Street Design Guidelines* for the design of a proposed residential or commercial avenue.

Safe Routes to School

Another example, the Federal Safe Routes to School program, brings together individual schools and school districts, students, parents, and law enforcement to develop programs to encourage students from kindergarten through 8th grade to walk or bike to and from their schools. Not only does the program promote exercise in students' daily lives, it also reduces the need for parents to drive their children and the resulting traffic congestion on streets around schools in the mornings and afternoons. FHWA provides Federal funds to all States to distribute to eligible recipients, usually through a competitive grant process, to support educational, safety, and other programs and to pay for infrastructure improvements. To ensure the program's success, FHWA requires each State to designate a full-time Safe Routes to School coordinator. (For more information, see "Safe Routes to School—Making a Big Difference Via Small Steps" in the July/August 2009 issue of *Public Roads*.)

To take only a single example out of many, school officials at Murch Elementary School in Washington, DC, engaged community partners in a Safe Routes to School program and, in a single school year, made a number of improvements to help ensure a safer walking and bicycling environment. Specifically, the program reversed a school policy prohibiting students from bicycling to school without special permission. The school also secured neighborhood support for construction of new sidewalks, reduced barriers to walking in surrounding neighborhoods, and implemented a 17-member student safety patrol program to enforce safe driving and parking behaviors around the school.

According to Robin Schepper, a parent volunteer at Murch Elementary, getting support from children and their parents, as well as expanding into the community, is critical to creating an environment and infrastructure that makes it safer for young people to walk and bicycle to school. Also, she says, "we reached out to senior centers in our neighborhood because they face the same barriers as students do walking in our neighborhood—speeding traffic, pedestrian lights that change too quickly, and the lack of traffic lights on high-volume streets."

In October 2009, U.S. Congressman James L. Oberstar, chairman of the House Transportation and Infrastructure Committee, recognized the school with the 2009 James L. Oberstar Safe Routes to School Award for outstanding achievement. The award acknowledges the school's success in building partnerships within the school and with the surrounding community and the District Department of Transportation (DDOT).

Jennifer Hefferan, DDOT

As part of the Safe Routes to School program, DDOT constructed segments of new sidewalk, such as this one, near Murch Elementary in Washington, DC.

Context Sensitive Solutions

Another FHWA-backed approach is applying context sensitive solutions (CSS) to help ensure that streets are indeed "complete" in the sense of being appropriate for the area in which a project is implemented. As defined by FHWA and the American Association of State Highway and Transportation Officials, CSS is a collaborative, interdisciplinary

approach that involves all stakeholders in providing a transportation facility that fits its setting. CSS leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources, while improving or maintaining safety, mobility, and infrastructure conditions.

Transportation officials can apply CSS early in the planning process and throughout project development and delivery. Some of the major elements of CSS include the following:

- Early and frequent consultation and collaboration with stakeholders and the community during planning and design, and using communications tools, such as design visualization, that help citizens better understand project proposals.
- Use of an interdisciplinary team to oversee and manage project development.
- Emphasis on enhancing and retaining the sense of place or uniqueness of an area and its valued resources and features.
- Consideration of multiple alternatives with the goal of building consensus on a final project, which might include elements of the various alternatives.
- Minimization of disruptive impacts on the community.

For example, the small community of Bingen, WA, and the Washington State Department of Transportation collaborated to apply a context sensitive solution to improve SR-14 through downtown Bingen. Located along the Columbia River in southern Washington State, Bingen is home to about 680 residents. One of the town's goals was to revitalize its main street while reducing traffic congestion and improving safety along that section of SR-14. Through community outreach, the town enlisted support from residents and other stakeholders to improve the accessibility and appeal of the revamped facility.

Completed in 2004, the project incorporates wider-than-standard sidewalks with bulbouts and other streetscape improvements such as trees and street furniture to attract more people to stop and stroll through the downtown. The designers added features such as left-turn lanes and right-turn pockets to facilitate traffic movement through town and to address the broader safety and congestion concerns. By combining transportation funds with economic revitalization grants, the project sponsors were able to improve the corridor for motorists, pedestrians, and other users.

"At first, some businesses and community residents were skeptical about the street improvements, especially proposals to spend a sizeable sum on sidewalks and trees," says Bingen City Administrator Jan Brending. "But once the project was completed, they were amazed at the difference it made. Downtown Bingen is now much more pedestrian friendly and livable, which has attracted businesses and revitalized the area."

Kenneth Hash, Washington State DOT

Where SR-14 passes through the town of Bingen, the Washington State DOT worked with local officials to improve accessibility and enhance the appeal of the revamped facility in the downtown area. Improvements included wider sidewalks and these landscaped bulbouts planted with trees and flowers.

The Role of State DOTs

Under Federal statute 23 USC 217, State DOTs are required to use a portion of certain Federal funds to hire a State bicycle and pedestrian coordinator. This position is responsible "for promoting and facilitating the increased use of nonmotorized modes of transportation." In addition, in accordance with the *Code of Federal Regulations* (23 CFR 450.214), each State DOT, in cooperation with metropolitan planning organizations (MPOs), is required to develop a multimodal plan that includes nonmotorized and public transportation.

The roles of DOTs and other State agencies in supporting transit programs vary significantly among the States. State laws, programs, institutional arrangements, and other factors influence how a State defines and meets it obligations. Regardless, State DOTs can work with transit operators to help ensure that, through road design standards, transit users can access transit services safely and conveniently along State-maintained routes in urban and rural areas.

Several States have adopted complete streets practices through a variety of mechanisms, including policy statements and revisions to project development and design guidelines. For example, in 2001, the California Department of Transportation (Caltrans) issued a director's policy on context sensitive solutions that describes the responsibilities of key officials and their respective offices or divisions to define and apply CSS throughout all aspects of transportation planning and project development, design, and implementation. As part of that effort, Caltrans also issued a deputy directive titled "Complete Streets—Integrating the Transportation System," which defines a complete street as a "transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function and context of the facility." The directive states that Caltrans will facilitate creation of complete streets, "beginning early in system planning and continuing through project delivery and maintenance and operations."

On the other side of the country, Massachusetts significantly revised its guidebook for street and highway design standards to allow greater flexibility and to foster a broader view of the role street and highway design plays in maintaining and enhancing community values and amenities. In fact, multimodal consideration is one of three guiding principles in the updated guidebook: *Massachusetts Highway Department: Project Development and Design Guide*. Specifically, the guide states that the multimodal focus is "to ensure that the safety and mobility of all users of the transportation system (pedestrians, bicyclists, and drivers) are considered equally through all phases of a project so that even the most vulnerable (for example, children and the elderly) can feel and be safe within the public right of way."

The Role of MPOs

In metropolitan areas with populations greater than 50,000, the responsibility for transportation planning lies with designated MPOs. Given their local and municipal focus, MPOs hold the greatest responsibility for adopting livability goals and promoting concepts such as complete streets in an urban region. The metropolitan planning process requires the development of integrated, multimodal transportation plans that address not only roadways, but also transit services and facilities, intermodal connections, pedestrian walkways, bicycle facilities, and other supportive programs and activities.

Transportation planning by MPOs can foster implementation of complete streets principles through various activities:

- Developing land use, economic development, and transportation (or other infrastructure) plans in a coordinated manner, with all elements supporting a common vision.
- Facilitating alternative transportation modes through land use goals and design standards.
- Connecting transportation projects and programs to public and private investments so they complement each other and support broader community goals.
- Accommodating the flow of freight while avoiding or minimizing negative impacts on residential areas, city centers, and other users of the transportation system.
- Considering a range of strategies, tools, and modal options to support complete streets and similar livability goals and activities.

Although not all facilities within a metropolitan region are significant enough to include in a metropolitan transportation plan or receive Federal funding through that plan, an MPO can ensure that member local governments, the relevant State DOT, and transit agencies consider the needs of all residents and visitors in that region. For example, an MPO can set appropriate regional goals and funding priorities, ensuring that a robust public involvement process includes key stakeholders, interest groups, and the public. The MPO also can coordinate regional planning with local transportation and comprehensive plans to include not only roadways but also facilities and systems related to transit and nonmotorized traffic.

For example, the Cheyenne MPO in Wyoming has taken an active role in implementing elements of its award-winning, integrated city-county comprehensive transportation plan known as PlanCheyenne. With the MPO's assistance, the Cheyenne Planning Department is putting the plan recommendations into law. Cheyenne had three separate code documents covering subdivisions, zoning, and street and site design standards, which were not necessarily compatible with each other. Now, however, the city is adopting a unified development code that will reflect the complete streets ideas presented in PlanCheyenne. The intent is to develop a balanced design for regional and local routes that safely accommodates all potential users of the streets and rights-of-way. In addition, the city expects to limit block sizes to enhance neighborhood connectivity and circulation for all modes. The Cheyenne MPO also approaches all corridor planning activities with the intention of creating complete streets.

Although street design standards usually are the purview of the State DOT and local governments, an MPO can assist those agencies through education and technical assistance to incorporate design elements that accommodate all users. An MPO can take a leadership role to establish regional policies that encourage complete streets design through a variety of programs and processes, and give funding preference to projects that reflect complete streets principles. Each MPO needs to decide if and how it will promote complete streets within its region, but its approaches can be creative and tailored to local circumstances.

As another example, in January 2009, the Bloomington/Monroe County MPO in Indiana took the lead in its region when it adopted a complete streets policy that applies to all local roadway projects where the MPO has programming authority to allocate Federal funding. The initial impetus behind the complete streets policy came from the MPO's citizens advisory committee. From there, the MPO facilitated regional collaboration and consensus building among key transportation stakeholders to craft a regional policy. "It was a challenging process to develop the policy, but we believe it was worth the effort," says Josh Desmond, director of the Bloomington/Monroe County MPO. "The policy will foster consideration of the needs of all road users in transportation plan and project development. No user will be left behind."

Local Governments and Transit Operators

In many cases, local governments are the organizations that ultimately decide how to implement a complete streets policy or ordinance within their respective jurisdictions, particularly on facilities owned and operated by those local entities. According to the National Complete Streets Coalition, by early 2010, 124 jurisdictions had adopted or

committed to adopt complete streets policies. In addition, either with the State DOT or in concert with other members of the regional MPO, local governments can support efforts to apply complete streets concepts across jurisdictional boundaries and to all roads within their respective jurisdictions, regardless of which government agency "owns" them.

The city of Charlotte, NC, is one example of a local government that has implemented a complete streets policy. In October 2007, Charlotte's city council adopted its Urban Street Design Guidelines to help the city shape its development patterns and provide residents and visitors with viable choices for how they move about the city. The guidelines include recommending block lengths for new developments that foster a denser, well-connected network of streets that in turn promotes more compact building design. The city also encourages wide planting strips to allow large, mature trees to continue growing, enhancing Charlotte's tree canopy and making the streets more pleasant for pedestrians and motorists alike. In addition, Charlotte is making pedestrian crossings more visible and changed traffic signal timing to better accommodate pedestrians. In recognition of these successes, EPA awarded Charlotte the 2009 National Award for Smart Growth Achievement in Policies and Regulations.

Transit operators too can encourage or require transportation plans and project design elements to accommodate all riders, including pedestrians, bicyclists, and disabled individuals who use transit as part of their travels. Through institutional and working relationships with government agencies and the private sector, transit providers have a say in or bear responsibility for developing and designing transit stops, stations, and transfer/intermodal centers. Close coordination with local governments, MPOs, State DOTs, and even private developers who have ownership of streets and other properties adjacent to transit access points can help ensure that riders have convenient and safe access to transit services.

For example, in 2004 the Alameda-Contra Costa Transit District (AC Transit) in California published *Designing With Transit: Making Transit Integral to East Bay Communities*, a guidebook targeting elected officials, local staff, and community builders. The document serves as a toolbox for community agencies working to make their main streets more vital and pedestrian friendly, and aims to help integrate transit more effectively into the local and regional planning processes. According to Nathan Landau, a senior transportation planner with AC Transit who helped develop the manual, Alameda has retrofitted a major arterial with streetscape improvements and customized bus stops consistent with the principles and goals of *Designing With Transit*. At least one member jurisdiction is considering incorporating portions of the manual into its comprehensive plan. In the next update to the guidebook, Landau adds, "complete streets principles will be clearly referenced, now that member jurisdictions are more familiar with the term."

The effect of applying Charlotte's *Urban Street Design Guidelines* is apparent on Elizabeth Avenue, shown here, where pedestrians, cars, and buses coexist, and landscaping creates an aesthetically pleasing environment.

Thinking Beyond the Car

Transportation agencies and their partners already have the ability—through legislation, Federal programs, policy statements, design guidelines, and planning—to provide more complete streets to all travelers by taking advantage of the many opportunities to go beyond traditional approaches.

As Secretary LaHood said in a recent posting on "Fast Lane," the Secretary's official blog, "We need roadways designed to account for the needs of everyone who uses them, whether driving, walking, or riding in a wheelchair or on a bicycle."

All transportation professionals, regardless of their respective disciplines, have the power to help create a transportation network that rises to the challenge of meeting the mobility requirements of the 21st century. Getting there requires a shift in mindset from designing an auto-focused highway system to operating a transportation network that accommodates all users and modes safely and conveniently.

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Minutes of Meeting

Project: Cascade Township - Village Complete Streets Plan
Initial Meeting with Kent County Road Commission

Date: July 15, 2013

File No: 60846001/002

Present: Cascade Township – Sandra Korhorn, Steve Peterson
Kent County Road Commission – Tim Haagsma, Wayne Harrall
Progressive AE – Pete LaMourie

Copy: Those in Attendance
LSL Planning – Brad Strader
Progressive AE – Bob Petko

ITEMS DISCUSSED

This meeting was held with Kent County Road Commission (KCRC) staff to discuss potential complete streets opportunities and constraints and a few initial ideas, largely related to the Cascade Road corridor within the village/study area. Discussions started with a general overview of the plans primary goals and objectives and the projected plan process that will occur over the next three to four months. Discussion items included the following in no particular order.

1. Key goal of the complete streets plan is to provide better non-motorized and pedestrian connectivity across Cascade Road.
2. A brief discussion of the past multi-lane roundabout concept at Cascade/28th was discussed. It is seen as more of a longer term alternative (given apparent current resident unfamiliarity/concerns) if other shorter term improvements are not as successful as expected.
3. Although traffic volume data on GVMC/KCRC website varies, it is understood that current weekday traffic volumes on Cascade Road within the study area are in the 20,000+ vehicle range, essentially eliminating the potential concept of a reduction to a three-lane cross section.
4. There is a storm sewer line running under the middle of Cascade Road that will need to be kept in mind if any improvements are pursued in that area.
5. The subject of 3 or 4 intermittent raised medians on Cascade Road within the current center left turn lane was discussed as a way to calm traffic and for potential mid-block crossing(s). It is recognized that existing full movement commercial driveways along Cascade Road make placement of such raised medians difficult. KCRC staff were open to the concept of such intermittent raised medians if resulting turn restriction issues can be resolved with business owners. At this point raised medians were discussed for locations at a midpoint (near the end of old 28th) and at either end of the study area (600+ feet north of the Cascade/28th intersection and just south of the bridge over Thornapple River). Design aspects include a need for vertical elements: canopy/columnar trees within such medians, potential (if room and applicable) for bio detention as used in several recent Grand Rapids projects (Plainfield Avenue noted), and potential need to widen Cascade Road slightly at one or more median locations to provide a wider median for better landscape environment and pedestrian/bike storage.

6. It is believed that Cascade Road has approximately 100 feet of right-of-way within the study area.
7. Bike lanes on Cascade Road likely not an option given the current +/- 55-foot cross section unless more extensive widening is completed. Focus should be on improving/enhancing/expanding the current off-street bike path system within the area.
8. Complete streets improvements at the Cascade/Thornapple Drive intersection were discussed. KCRC staff were agreeable to enhanced pedestrian crosswalk markings and/or stamped concrete for the crossings (or for the entire intersection for additional calming/aesthetic benefits). A raised full intersection table-top concept was discussed but was deemed unacceptable.
9. There are already current/ongoing discussions/plans for adding sidewalks along the north side of Thornapple Drive just east of Cascade Road — could be accomplished by shifting north edge curb to south slightly and re-striping Thornapple. Potential for doing like changes on other sections of Thornapple on west side of Cascade was discussed briefly, with recognition of grade and other issues.
10. It was noted that the existing traffic signal control cabinet on the northeast quadrant of the Cascade/Thornapple intersection creates sight line issues for drivers. KCRC and township staff appear open to the idea of shifting this controller slightly to east (cost likely $10,000 to $15,000).
11. Alternatives regarding improvements to the bridge area were discussed. Raised medians (even for low growing plants/shallow depth) was not seen as feasible by KCRC staff due to issues with tying median curb structure into bridge deck/structure. Even just restriping to provide bike lanes not likely feasible as long transitions would use up much of the space, and peak-hour left-turn queues (especially southbound) can be extensive.
12. Potential for revising the eastbound approach of Old 28th Street to Cascade was discussed. Concern is that many drivers do not fully stop for that right turn given the significant angle of that channelized approach and thereby creating crash concerns. KCRC staff appeared open to the idea of reconfiguring that approach to something closer to a more standard 90-degree angle (while still retaining right-turn only channelization).
13. Agreed in general that adding sidewalks/paths on the west side of Cascade Road north of 28th Street and on the north side of Old 28th would be applicable improvement measures.

The meeting wrapped up with brief discussion regarding upcoming public input and concept design tasks and eventual need to set up a follow up meeting with KCRC staff.

The above constitutes my understanding of items discussed and/or decisions reached. If there are any additions and/or corrections, please contact me within 7 days.

Peter C. LaMourie, P.E. PTOE

Complete Streets Plan

You Are Invited…

The Cascade Township Planning Commission and the Township DDA invite you to a public meeting to discuss a complete streets plan for the Village area. This workshop will be facilitated by our consultant experts and will highlight a few of the ideas that have been developed so far including raised median sections on Cascade Road, an expanded sidewalk/pathway system, and improvements to the Cascade Rd./Thornapple Drive intersection

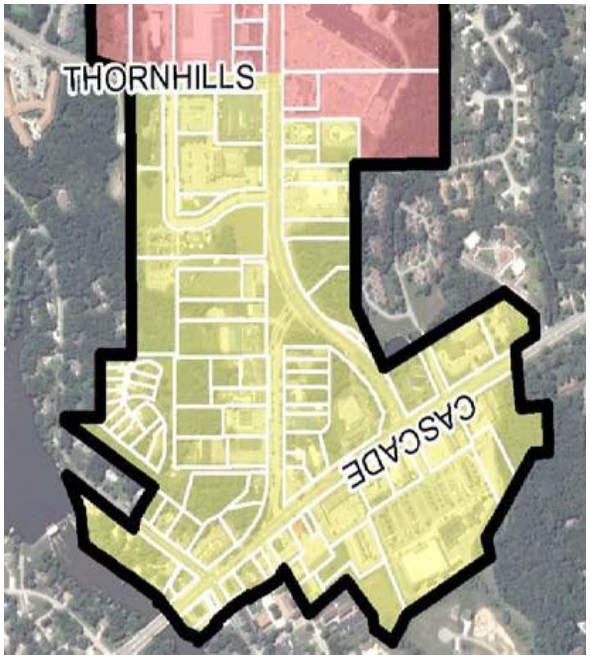
Complete Streets is a policy that directs planners and engineers to design and operate the entire right of way to enable safe access for all users, regardless of age, ability, or mode of transportation. This means that every transportation project will make the street network better and safer for drivers, transit users, pedestrians, and bicyclists.

We want to hear what you think, what other ideas you have, and which complete streets elements should have the highest priority.

When: Wednesday, October 9, 2013

Where: Cascade Library Wisner Center, 2870 Jacksmith Dr. SE

Time: 4:00 p.m. – 6:00 p.m.


THORNHILLS
CASCADE

Open House Attendees Sign-in

Project: Cascade Village Area Complete Streets Plan **Date:** October 9, 2013

Name (Please Print)	Company Name or Resident Address	Phone	Email
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DAN ROBERTSON	LITTLE HARBOR DR SE	686-5272	
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Open House Attendees Sign-in

Project: Cascade Village Area Complete Streets Plan **Date:** October 9, 2013

Name (Please Print)	Company Name or Resident Address	Phone	Email
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progressive ae

Village of Cascade Complete Streets Plan

Preliminary Plan Public Open House

October 9, 2013

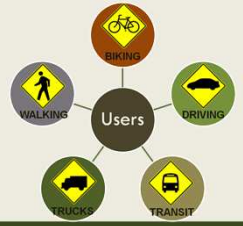
Open House Program

- This presentation on "complete streets" background and preliminary ideas for village area
- Break up to review presentation boards and have one-on-one discussions
- Very informal
- Sticky notes or comment cards to provide us with your input

What is Complete Streets?

A system of streets…

planned, designed, operated and maintained so <u>all users</u> may safely, comfortably & conveniently move <u>along</u> & <u>across</u> streets



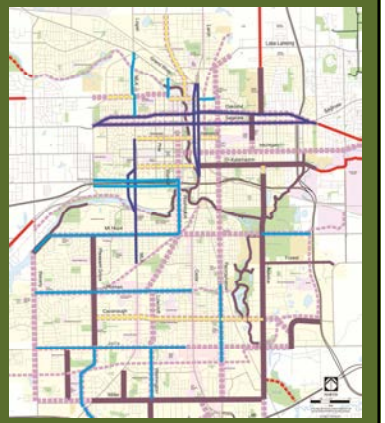
All users include:

- Pedestrians
- Bicyclists
- Transit users
- Motorists
- Trucks
- Children
- Elderly
- People of various abilities

Complete Streets Planning Process

1. Complete Streets Vision
2. Identify Opportunities and Needs
3. Analysis
4. Alternatives
5. Action Plan
6. Monitoring and Implementation

Public Input Is Key Part of Process



Changes in Michigan Policy

Act 51 (MI Transportation Fund) Revisions

- Requires inter-jurisdictional consultation on non-motorized projects
- Use of established best practices
- Established an Advisory Council to
  - Adopt CS policy for MDOT
  - Develop model policies for locals
  - Advise MDOT and locals on implementation Issues
- MDOT may provide technical assistance and required to share expertise
- Enables inter-jurisdictional agreements for maintenance

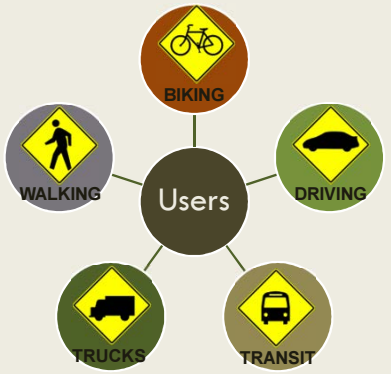
Act 33 (Planning Act) Revisions

- Definition of "streets" expanded to include all legal users
- Expands elements that may be included in a master plan to include all forms of transportation
- Specifies that transportation improvements be appropriate to their context
- Specifies cooperation with road commission and MDOT

Both Effective Aug. 2010

Who are we planning for?

- Motor vehicles
- Pedestrians
- Bicyclists
- Transit users
- Special groups
- Other



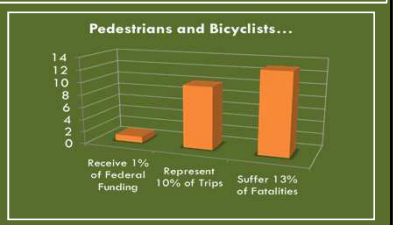
Complete Streets

Leveling the playing field

Benefits of Complete Streets

- **Environmental:**
  - Reduced greenhouse gas emissions
  - Reduced carbon footprint
  - Less oil dependency
- **Public Health:**
  - More active lifestyles
  - Increased mobility
- **Safety:** sensitive design results in fewer & less severe crashes
- **Quality of Life:** More attractive streets & places translates into more business

…this cube represents one ton of CO_2, or what the average American puts into the atmosphere every 2 days…



Complete Streets Principles

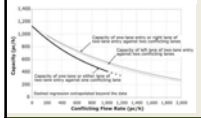
- Interconnected networks
  (destinations linked by roads, sidewalks, trails & transit)
- Convenience
  (linked destinations within walking distance)
- Full array of facilities
  (on-street bike lanes, sidewalks, pathways, trails, etc.)
- Facilitate safe movement along & across streets
  (crosswalks, access management, traffic signals, etc.)
- Proper planning
  (appropriate transit population & employment densities)
- Match street design to user needs & context…

Multi-Modal Quality of Service

Priorities are not the same on every street




Automobile Level of Service
- Delay (at intersections)
- Volume / capacity ratios



Transit Quality of Service
- Frequency/hours
- Amenities
- Ped connectivity
- Supportive land use density/design

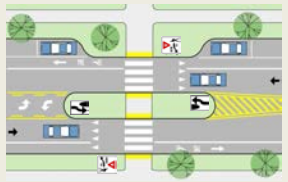
Bicycle Quality of Service
- Pavement condition
- Connected system
- Vary by user type

Pedestrian Quality of Service
- Sidewalk condition/gaps
- Crossing ease

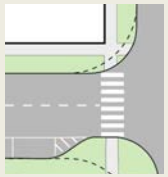
Crossing Alternatives

Basic Mid-Block Crosswalk

Crossing Islands



Curb Extensions



Crossing Alternative

- Intersection design
- Mid-block crossings
- "PELICAN" signals
  - Design varies; generally stops traffic when activated
  - High-volume crossings away from other signals
  - Schools, universities, hospitals, other institutions, at main transit stops

Intersection Alternative: Roundabout

- Keep a buffer between sidewalk and circular
- Use zig-zag crossing islands
- Place crosswalks such that existing and entering vehicles have a place to stop outside roundabout
- For entrance and exist lanes with multiple lanes consider:
  - Hybrid and audible pedestrian signals
  - Raised crosswalks

Green/Sustainable Streets

- Permeable pavement for on-street parking and bike lanes
- Curb extensions that incorporate "rain gardens"
- Sidewalks buffered by street trees

Illustration: Conservation Design Forum

Illustration: The Greenway Collaborative, Inc.

Need to keep vegetation low enough and trees far back enough not to obstruct views

Village Area Complete Street Goals

- Improve pedestrian/bicycle crossing opportunities across Cascade Road
- Slow Cascade Road speeds
- Expand parallel pathways/sidewalks
- Improve connectivity throughout village area
- Retain/expand current aesthetic treatments

C.S. Elements Considered to Date

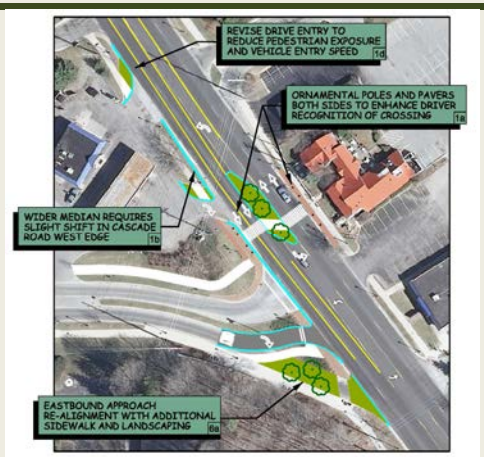
- Road diet/conversion
- Mid-block crossing on Cascade Rd
- Gateway measures
- Expanded sidewalk system
- Improved crossing/ intersection recognition
- Roundabouts

KCRC input obtained as part of preliminary process

Preliminary Plan includes…

- Raised median mid-block crossing of Cascade Street
- "Gateway" raised medians at Cascade Rd entry points
- Pavement treatments, improved crosswalks, etc at Cascade/Thornapple
- Re-aligned Old 28th approach to Cascade Road
- Pathway across river
- Extended/expanded sidewalks

Cascade Road mid-block crossing

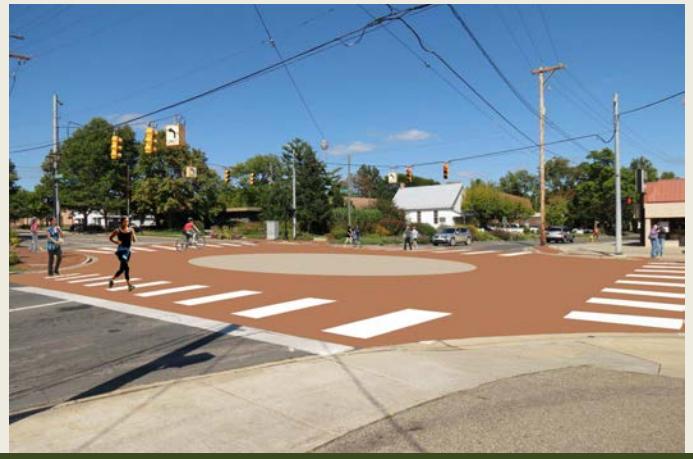


Mid-block crossing location - before

Mid-block crossing location - after

Cascade/Thornapple - before

Cascade/Thornapple - after

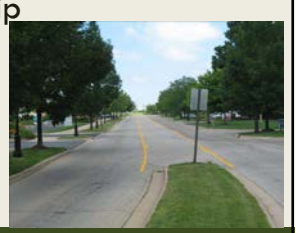


North Gateway Median – before

North Gateway Median – after

Next Steps

- Revise preliminary plan per public input
- Discuss revised plan with steering committee
- Second meeting with KCRC to discuss Plan
- Complete Final Plan and Report
- Present Final plan to Township Planning Commission, Board, and public



Questions for You….

- What do you see as the primary complete street issue in the village area?
- Do you like the idea of a mid-block crossing on Cascade at Old 28th?
- What would you like to see at the Cascade/ Thornapple intersection to improve ped/bike travel?
- What one change would get you or your family to walk or bike more in the village area?