TECHNICAL MEMORANDUM

From: URS Consultant Team

To: CATA Project Staff and Technical Committee

Date: September 16, 2009

Topic: Technical Memorandum #1 – Review of Previous Planning Studies

1.0 INTRODUCTION

The purpose of this technical memorandum is to summarize other projects and studies that have been and are being conducted within or near the Michigan and Grand River Avenues. This information will be referred to in the Purpose and Need as well as the development and evaluation of alternatives and, ultimately the definition of a Locally Preferred Alternative for improving transit service and overall multimodal transportation service in the Michigan / Grand River Avenue Transportation Study Area (Figure 1).

The first section of this technical memorandum summarizes completed studies both for and relevant to the Michigan/Grand River Avenue Transportation Study. It includes the problem definition, goals and objectives, and recommended actions. Previous studies include:

- 1970 Analysis of the Selected Corridors in the Tri-County Region
- 1974 Alternative Activity Center Transportation Systems
- 1975 Analysis of Existing and Future Corridor and Activity Center Transportation Systems
- 1976 Study Prospectus: East Grand River Corridor
- 1977 Long Range Public Transportation Plan: Summary Report
- 1977 Technical Report: Long Range Transportation Plan for the Tri-County Region

- 1978 Long Range Public Transportation Plan: Final Alternatives
- 1977-78 Transit Prospects for the Year 2000
- 1980 Miscellaneous letters and documents from various agencies
- 1983 Feasibility Study for New Transportation Technology on Michigan Avenue Corridor : Final Report – City of Lansing, City of East Lansing, MDOT
- 1985 Grand River Transportation Systems Management Study - TCRPC
- 1993 Grand River Avenue (M-43) Corridor Study – Meridian Charter Township
- 1994 East Michigan Avenue Revitalization Plan – City of Lansing
- 1997 Grand River Avenue West Meridian Business District Corridor Improvement Project: 1997 Call for Projects
- 2004 Meridian Township Zoning Ordinance Excerpt: Sec. 86-441. Grand River Avenue (M-43) Corridor Access Management Overlay District
- 2004 2005 Master Plan - Charter Township of Meridian: Comments Draft
- 2005 Tri-County Regional Growth: Choices for the Future
- 2005 Traffic Impact Study for Proposed Michigan State University Parking Ramps – Grand River Avenue - MSU
- 2006 East Village Master Plan – City of East Lansing
- 2006 Parking System Master Plan – City of East Lansing
- 2006 Big Picture: Comprehensive Plan for the Future – City of East Lansing
- 2007 Traffic Impact Study for the Proposed Walgreens Pharmacy – Charter Township of Meridian
- 2007 Customer Survey Technical Memorandum – CATA
- 2008 Final Comprehensive Analysis Report - CATA

- 2009 Transforming the Michigan Avenue Corridor: A Compete Streets and Transit Oriented Development Study: Final and Summary Reports - City of Lansing, City of East Lansing, Lansing Charter Township
- 2009 CATA Ridership: 1999 - 2009

The list of relevant studies already completed indicates that there is sufficient information available to ensure a clear and succinct definition of the Purpose and Need Statements for transit improvements in the Michigan and Grand River corridor.

The second section of this technical memorandum provides an update of ongoing projects relevant to the Michigan and Grand River corridor, listed below:

- 2009 DRAFT Michigan Avenue Corridor Conceptual Development Plan – City of Lansing, City of East Lansing, Lansing Charter Township
- 2009 Saginaw Street Corridor Improvements Act Authority (CIAA) Priorities Meeting & CIAA for Saginaw Street Tax capture
- 2009 Non-motorized Transportation Plan – City of East Lansing
- 2009 DRAFT Comprehensive Master Plan – City of Lansing
- 2009 DRAFT Regional Asset Assessment Report of the Lansing Metropolitan Region

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Michigan/Grand River Avenue Transportation Study

Study Area Base Map

Figure 1

0 0.25 0.5 1 Miles

CATA

Legend

- Primary Road - Limited Access
- Primary Road
- Secondary Road
- Local and Rural Road
- Existing Trail
- Proposed Trail
- Railroad
- Water Feature
- City Limits
- Census Designated Place
- Park; Open Space
- County
- Study Area

2.0 COMPLETED STUDIES

2.1 Mass Transportation in the Tri-County Region

- Year Completed: 1969
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)
- Relevance to Michigan / Grand River corridor: This study provides historic perspective on policy, operations and program for improvement for the local transit system in the Tri-County region.
- Summary: Policy development stressed the need for a regional transit design concept integrated with other transportation system components, a transit system to serve present needs and stimulate desirable future land use patterns. Operation plans were developed for immediate, short-range (1975), and long-range (1990). Thirteen short and five long-rang recommendations based on the operation plans were provided. The transit improvement program covered a 12 year period and included anticipated revenues, capital costs, and operating costs. It was predicted that the local bus system would be operating at a loss of $68,0000/year at the end of that 12 year period unless ridership increased substantially.

2.2 Analysis of the Selected Corridors in the Tri-County Region

- Year Completed: 1970
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)
- Relevance to Michigan / Grand River corridor: Michigan Avenue and Grand River Avenue was the subject of a corridor analysis as a result of increasing traffic flows based on mushrooming land use development activities.
- Summary: The report focused on three freeway corridors (I-69, US 27, M-43) and one arterial corridor (Michigan Avenue) to evaluate land use transportation relationships, determine the preferred location for specified corridor, and implement suggested actions. Alternate locations were analyzed and took into consideration:
    - Updating land use activity and traffic data;

- Reevaluation of present and proposed land development patterns;
- Determination of the effect of present and future land use development patterns on the present transportation system and alternative future systems;
- Developing proposals; and
- Developing implementation plans

M-43 (Cross Campus Corridor) Analysis

The Michigan Department of State Highways (1970) Engineering Report 1680 described this corridor as one which "will serve as an eastern connection to the City of Lansing and will provide relief for the highly congested Grand River Avenue in East Lansing. Extensive service will be provided to the University by allowing traffic direct access to the athletic, social and educational centers." The location and design of the Cross Campus Corridor was determined through a joint effort including the TCRPC and the Michigan Department of State Highways. The effects of major land use changes to the corridor were considered in determining 1990 vehicular volumes used for the corridor analysis. Residential and commercial development in East Lansing, and Meridian Township and construction of new facilities at Michigan State University were taken into consideration when estimating trip generation.

The Cross Campus corridor analysis consisted of 1990 vehicular trips using to two different road systems, essentially, build and no-build. The result of the no-build option indicated an extensive increase of traffic on Grand River Avenue. This included the proposed M-43 expressway in the road system, but Grand River Avenue would still experience traffic volumes in excess of 1970 traffic volumes in a matter of years.

The TCRPC passed a resolution on November 11, 1969 which, in part, stated "…the said proposed Cross Campus Route has been reviewed and supported by the Technical and Governmental Committees with a favorable recommendation to the Commission."

Michigan Avenue Analysis

A comparison of 1990 vehicular volumes and road capacities was made in the Michigan Avenue corridor. Oakland Avenue, Saginaw Street, Kalamazoo Street, and I-496 were among the roads included in this corridor analysis. The results of the analysis noted that Michigan Avenue could adequately accommodate 1990 volumes which would be using that particular segment of roadway. The majority of the volume increase in this corridor would be absorbed by I-496 and to a lesser extent Oakland Avenue and Saginaw Street.

Other Activities

In addition to analysis of the transportation corridors, other related activities as noted below in the area were taking place during this same timeframe:

- TOPICS Task Force created to determine a set of projects, including priorities, to be accomplished in the Lansing Urbanized area;
- Development of a uniform set of road standards that were incorporated into subdivision regulations of Clinton, Eaton, and Ingham counties and the City of Lansing. A key advantage identified in the new road standards is that a set of uniform right-of-way widths were required for roads located within and outside the previously described corridors.
- Zoning ordinances were reviewed, revised and if necessary rewritten in several local governmental units in the TCRPC region. This allowed for better control of land development in the previously discussed corridors and will enhance the development of the corridor and the use of existing and proposed roads within these corridors.

2.3 Alternative Activity Center/Corridor Transportation Program

- Year Completed: 1974
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)
- Relevance to Michigan / Grand River corridor: This technical work paper focused on the identification and analysis of alternative approaches (i.e. transit development concepts) for achieving selected transportation objectives the Lansing and East Lansing Activity Centers.
- Summary: Transit development concepts were developed to enhance the accessibility of Lansing and East Lansing Activity Centers from surrounding residential and industrial areas and to increase traveler mobility within each center. The following benefits were anticipated through enhanced accessibility and increased traveler mobility:
  - Reduced dependency on the automobile for Activity Center access and circulation;
  - Enhanced development opportunities and expanded economic activities;

- Increased mobility for the region's non-driver populace;
- Mitigate the adverse environmental impacts of the private auto use;
- Potential reduction of traffic congestion; and
- Enhancement of personal safety through reduction of conflicts between pedestrians and automobiles.

The transit development concepts were established through a process of design, analysis and evaluation and followed four steps:

1. Understanding the region's transportation problems, barriers to mobility, constraints on land usage and other physical characteristics and features.
2. Identification and assessment of the spectrum of alternatives and technology which have the potential for application within the Tri-County region.
3. Establishment of alternative transit service concepts.
4. Preparation of detailed data necessary for understanding of the alternatives and suitability for their evaluation.

The findings of this were completed in terms of descriptions of alternative Activity center circulation and access systems via conventional buses and automated transit technology. A summary of the major alternatives recommended for testing and within the evaluation process follow.

Lansing Activity Center

- Examination of an activity circulation system was recommended to with respect to attractiveness, cost and benefits in providing for the near-term internal travel needs. It was recommended the system be treated as operating with short headways (four minutes) and using small roadway transit vehicles (12-20 passengers).
- Examination of two options for park and ride intercept concepts using analysis tools and demand data from pedestrian, parking and attractor surveys was recommended. If in the order of sufficient demand levels, a minibus train approach was recommended as an option rather than the use of single larger single vehicles to minimize operation restrictions within the State Office Plaza and for other reasons.

- A short segment of automated transit was recommended to be tested in the evaluation process for the 1980 timeframe to appropriately size the system and determine the financial feasibility. Additionally, it was recommended an impact study be completed for potential land use development opportunities. It was further recommended test characteristics be based on a fleet size of 20 passenger vehicles operating as individual vehicles at 1 1/2 minute headways and in 4-unit trains at 6-minute headways.
- An extension of the above automated transit system was recommended to be tested for a 1985 timeframe to size the system and to determine the financial feasibility. It was further recommended test characteristics be based on a fleet size of 20 passenger vehicles operating as individual vehicles at 1 1/2 minute headways and in 4-unit trains at 6-minute headways.

East Lansing Activity Center

- Recommended to include a bus route to test the use of automobile intercept lots around the periphery of the Center and standard size buses (51 passenger) on schedules compatible with the Michigan State University (MSU) class start and end times. Characteristics should reflect the cost of the operation under Capitol Area Transit Authority (CATA) as well as for the optional operation by MSU.
- Recommended to test a bus route with the above CATA and MSU operating options at frequent service levels with 25-30 passenger buses.
- To acknowledge the possibility of transferring operating responsibility for the MSU circulation system to CATA, it was recommended an option reflecting the integration of the East Lansing circulation and internal campus circulation is tested.
- A recommended test including a cross-campus automated transit system that will provide an alternative means for accessing the main employment centers of the metropolitan region from residential areas east of the East Lansing Activity Center be included. The first segment would extend from the Meridian mall area to the Frandor Shopping Center and is anticipated to eventually connect to the Lansing segment noted previously in this summary.

Recommendations for further consideration in a more detailed corridor system analysis in the second phase of the Activity Center/Corridor Project were outlined and are noted below:

- Development of a central transportation terminal within the Lansing Activity Center and a central transit transfer terminal within the East Lansing Activity Center.
- Establishment of bus routes to provide commuter service to outlying communities within the Tri-County region.
- Development of special transit services to satisfy known travel requirements including a bus route to connect the inter-city transportation facilities with the city bus system a low-cost metropolitan intercept express bus service using shopping malls as park and ride facilities.
- Determine the feasibility of instituting a metropolitan commuter rail service over existing rail lines.
- Determine the feasibility of as metropolitan automated transit system using either rail right-of-way or street and highway right-of-way.

2.4 Activity Center/Corridor Project Tech Paper #6 - Analysis of Existing and Future Corridor and Activity Center Transportation Systems

- Year Completed: 1975
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)
- Relevance to Michigan / Grand River corridor: Provides historic perspective in transit systems in terms of ridership, cost, and revenues.
- Summary: The principal purpose of this technical paper was to evaluate alternative transit systems in terms of ridership, cost and revenue. Also, a parking and supply demand analysis was conducted of the Lansing Activity Center. The following statistics were noted in the technical report:
  - Daily Person Trips – 2,428 in 1973 to 3,766 in 1995

- Daily Inbound Person Trips to Lansing Activity Center: 77,410 in 1973 to 199,070 in 1995
- Daily Inbound Person Trips to the East Lansing Activity Center: 78,290 in 1973 to 115,200 in 1995
- Travel from the Region to Both Activity Centers: 12% in 1973 to 17% in 1995

Based on those expected increases, a series of transit system alternatives were developed and analyzed to determine the extent to which transit could reasonably be expected top reduce activity center auto travel and parking demand.

2.5 Study Prospectus: East Grand River Corridor

- Year Completed: 1976
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)
- Relevance to Michigan / Grand River corridor: This study prospectus summarizes the need for comprehensive transportation planning (multimodal needs) and lack of implementation for previously identified traffic related problems.
- Summary: The study prospectus identified nearly 20 issues affecting transportation related to East Grand River Avenue ranging from population and employment increases, increased traffic volumes causing congestion, safety issues (concerning both automobile and pedestrian/bicycles), parking shortages, and lack of transit options. The Prospectus identified three study approaches to address the issues.

Traffic Operations Study

This study would focus on East Grand River Avenue and would look at solutions related to types of reconstruction to roadway alignment ranging from lane channelization, traffic signalizations, minor widening within the right-of-way, access control, and provision of bike and pedestrian facilities.

Service Corridor Study

This study approach proposed to focus on east-west travel needs throughout the East Grand River Avenue Corridor taking into account alternative solutions, including major reconstruction, new routes such as the proposed Cross-Campus Corridor, parking facilities and minor traffic

engineering actions. Multimodal solutions were also noted as possible solutions. The end result was to be a recommended schedule of specific projects which recognize the present facilities inability to meet current and forecasted travel needs.

Subregional Study

This approach was to address all matters outlined in the preceding approaches. Emphasis was to be placed on the local transportation system issues and multimodal travel needs throughout a greater geographic area including all of East Lansing, MSU and most of Meridian Township. North-south-east-west corridor travel needs would be considered as well as all county, municipal and state trunk roadways would be taken into consideration. The end product proposed was a systems-level identification of needs and analysis for all travel modes.

Recommendations and next steps identified in the study included:

- Forwarding this study to the Capital Area Regional Transportation Study to obtain their endorsement;
- Submit a specific list of issues from the study to local planning and transportation commissions, including the City of East Lansing, Ingham County Road Commission, Meridian Charter Township, and MSU. The list of issues might include:
    - Does a study need to be completed?
    - Can minor improvements to East Grand River Avenue be made before a study is started or completed?
    - What study approach should be taken?
    - When should the study begin?
    - Who should coordinate the study?
    - How should the study be financed?
- The TCRPC, in conjunction with the Michigan Department of State Highways, and affected local governments, should hold a public meeting to present the information and alternatives outlined in the study prospectus.

- By resolution, the East Lansing City Council, Ingham County Road Commission, Meridian Charter Township Board of Trustees, and MSU Board of Trustees should act on recommendations pertaining to the issues listed in the second bullet.
- The TCRPC and Michigan Department of State Highways should respond to the resolutions proposed to be passed by local government units.

2.6 Long Range Transportation Plan: Summary Report

- Year Completed: 1977
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)
- Relevance to Michigan / Grand River corridor: Provides historic perspective within the planning context with which mid and long-range transit plans were developed.
- Summary: This study developed mid and long-range plans for transit in the Lansing region. Several work papers and studies were prepared for the basis of this study with the key documents listed below:
    - Alternative Futures for the Transit Plan
    - Revised Planning Objectives and Criteria
    - Market Research Findings
    - Policy Mode Split
    - Results of the Goal-Weighting Session
    - Alternative Transit Concepts

  The documents detailed the analysis process and views of the general public, existing transit riders, and the policy makers in the region. Base information on the existing and future travel patterns also was analyzed to determine the proper future for transit.

2.7 Long Range Transportation Plan: Summary Report

- Year Completed: 1977
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)

- Relevance to Michigan / Grand River corridor: Assessment of long range transportation needs of the Tri-County region and evaluation of different types of and levels of transit operations.

- Summary: This study assessed the long range public transportation needs of the Tri-County region, and evaluated different types and levels of transit operations (urban service, suburban service, rural service, Sunday service) to satisfy expected amounts of travel demand. Because this plan was but one component of the Multi-Modal Transportation Plan, current and future transit operations were looked at on a general "systems level", focusing on appropriate system designs and overall levels of service. This plan had a framework of 10 years, though some attempts were made analyze service types for the year 2000.

2.8 Technical Report: Long-Range Transportation Plan

- Year Completed: 1977

- Lead Agency: Tri-County Regional Planning Commission (TCRPC)

- Relevance to Michigan / Grand River corridor: Provides historic perspective of public transportation needs of the Tri-County region and evaluation of different types of and levels of public transportation operations.

- Summary: This report was a component in a Multi-Modal Transportation Plan and presented current and future transit operations from a "systems level" perspective, looking at system design and overall levels of service rather than rout individual route alignments or neighborhood level transit needs. The plan proposed a ten year implementation period with all service provided by buses on existing roadways. Higher forms of transit including rail, fixed guideway, and express bus lanes were also examined for the Lansing region but were discarded as being impractical and unwarranted for this area.

2.9 CBD Grand River Corridor Study

- Year Completed: 1978

- Lead Agency: City of East Lansing

- Relevance to Michigan / Grand River corridor: Provides historic perspective to develop solutions to major circulation and parking issues within the East Lansing CBD.
- Summary: The study area included the Grand River Avenue corridor between Hilcrest and Orchard Streets, the immediate CBD area to the north, and fringes of contiguous neighborhoods. The study considered vehicular and pedestrian circulation patterns, previous studies related to Grand River Avenue and a proposed second parking structure within the CBD.

2.10 Transit Prospects for the Year 2000

- Year Completed: 1977
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)
- Relevance to Michigan / Grand River corridor: Provides a high-level analysis, in 1977, to determine the type and level of transit service that may be necessary in the Lansing area in the year 2000.
- Summary: This analysis screened four system prototypes or concepts by comparing passenger carrying capacity, capital costs, vehicle cost, and operating cost in the target year. The four main concepts tested were:
    - Rail-rapid transit;
    - Light rail service;
    - Light guideway system; and
    - Express bus lanes

  The study determined that express lanes operating on exclusive lanes could comfortably serve the year 2000 transit travel demand. It was noted that if factors changed significantly, such as a major reduction in the availability of fuel, a fixed guideway concept might be more practical. However, it was further noted that such a factor or factors would need to be of nearly monumental proportions to make more intense levels of service viable in the Lansing community.

2.11 Long Range Transportation Plan: Final Alternatives

- Year Completed: 1978
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)
- Relevance to Michigan / Grand River corridor: Assessment of long range transportation needs of the Tri-County region and evaluation of different types of and levels of transit operations.
- Summary: The initial version of the LRTP (2.4 Long Range Transportation Plan: Summary Report), considered several transit system concepts to formulate specific alternative configurations for each of the four transit service categories – urban service, suburban service, rural service and Sunday service. As such, the thought process indicated that each alternative presented in the plan represented a technically feasible and desirable direction for future development of that category public transportation in the region.

2.12 Miscellaneous Letters and Documents from Various Agencies

- Year Completed: 1980
- Lead Agency: Various
- Relevance to Michigan / Grand River corridor: Early correspondence from various agencies expressing concern for the amount of time and money to study light rail or other high efficiency transit systems between Lansing and East Lansing.
- Summary: Seventy-six page document, including 1980 correspondence letters (i.e. MDOT, CATA, TCRPC, City of Lansing), regarding a $56,000 feasibility study grant (Summarized in 2.8) to study light rail or other high efficiency transit systems in Lansing and East Lansing. Included in this document are excerpts from Activity Center/Corridor Projects (1975) and LRTP (1977) in which agencies involved in the correspondence letters reference as the source for unsuitability for light rail, and therefore opposition for funding such a study.

2.13 East Lansing Intermodal Passenger Terminal Feasibility Analysis

- Year Completed: 1980
- Lead Agency: City of East Lansing

- Relevance to Michigan / Grand River corridor: Early study addressing the possibility of intermodal transportation alternative in East Lansing. Provisions for a connecting route to this intermodal terminal will be considered.

- Summary: The premise for this study was an intermodal passenger terminal would provide convenient access to local and intercity buses, taxis and AMTRAK trains at a single location. The study considered an intermodal passenger terminal to serve both Lansing and East Lansing, but was ultimately discarded because such a facility could not offer access to all modes of transportation at a convenient location.

  The study concluded that an intermodal passenger terminal in East Lansing located on Trowbridge Road could provide regional and local benefits by improving access to a variety of transportation modes, making public transportation a viable alternative to the automobile.

2.14 East Lansing Intermodal Passenger Terminal Site Analysis

- Year Completed: 1980

- Lead Agency: City of East Lansing

- Relevance to Michigan / Grand River corridor: Early study addressing the possibility of intermodal transportation alternative in East Lansing. Provisions for a connecting route to this intermodal terminal will be considered.

  Summary: This study identified the general location for and intermodal passenger terminal at Trowbridge/South Harrison area adjacent to the Grand Trunk Western and Chesapeake and Ohio rail lines. This location allows the proposed facility to be easily accessible to public transportation providers, as well as the MSU student population.

2.15 East Grand River Corridor Review

- Year Completed: 1981

- Lead Agency: Tri-County Regional Planning Commission (TCRPC)

- Relevance to Michigan / Grand River corridor: Alternatives development to improve vehicular traffic congestions and circulation issues in the East Grand River Corridor. The

traffic characteristics documented in the study will be considered relative to the transit enhancement alternatives for the corridor.

Summary: The basis for analyzing alternatives was to take into consideration over 30 items of concern identified by local jurisdictions within the corridor study area. The concerns focused on access, congestion, safety, operational problems, environmental issues, and financial concerns. The analytical process identified a high travel demand within the Grand River Corridor, and at certain segments experienced accident rates nearly double the statewide average. Analysis of the public transportation system indicated that mid-day capacity is often exceeded while peak period demand was generally being met. The final recommendation by the East Grand River Corridor Review Committee was to initiate a joint study which would focus on Transportation Management System (TSM) improvements emphasizing:

- Traffic engineering actions – Identified in the Low Capital/Minor Improvements Alternative
- Ridesharing and transit options – Identified in the Other Modes Alternative
- Various parking policies – Identified in the Demand Constraints Alternative
- Local improvements which would improve access to the East Lansing CBD and MSU.

2.16 Feasibility Study for New Transportation Technology on Michigan Avenue Corridor: Final Report

- Year Completed: 1983
- Lead Agency: City of Lansing, City of East Lansing, MDOT
- Relevance to Michigan / Grand River corridor: A study of alternatives for new transportation technology in the Michigan Avenue/Grand River Avenue between the cities of Lansing and East Lansing. Relevant findings of this study will be considered with the recommendations for enhanced transit along the corridor.
- Summary: The study considered several alternatives for improvement of public transportation. A base service alternative reflecting existing conditions and capabilities in the

corridor was defined as the point of reference for comparative evaluation alternatives, which included:

- A low capital improvement of existing bus services in the corridor;
- Trolley bus services, with overhead electrification driving the electrified coaches;
- A high capital improvement of diesel bus services in the corridor;
- Hybrid alternative (combination of low and high capital improvement characteristics); and
- Light rail transit service.

The capital intensive alternatives such as the high capital bus, trolley bus, or light rail were recommended at that time to be rejected from consideration in the corridor. The investment those alternatives required could not be justified due to the limited gains the community was projected to receive.

The present system of public transportation in the Michigan Avenue – Grand River Avenue corridor was recommended to continue as is. The hybrid alternative, in which articulated buses would be utilized during peak hours of operation, could be implemented on an experimental basis by CATA. At the time of this study, the justification for a hybrid alternative was marginal.

It was further recommended that this study be reexamined and updated in the first part of the next decade (1990s) to analyze the appropriateness of prevalent technologies. The corridor should be considered for expansion to include other areas such as Meridian Township, Delta Township and possibly Grand Ledge where future growth is anticipated to occur.

2.17 Grand River Transportation Systems Management Study

- Year Completed: 1985
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)
- Relevance to Michigan / Grand River corridor: Evaluation of Transportation System Management (TSM) alternatives using computer simulation to evaluate alternatives to improve traffic flow along Grand River Avenue in East Lansing. The traffic characteristics

documented in the study will be considered relative to the transit enhancement alternatives for the corridor.

- Summary: It was recommended (East Grand River Review Team) that a TSM study be performed within the subject corridor with special attention given to the East Lansing/MSU area. The study emphasized:
    - Low capital/minor improvements to the existing system – traffic engineering options;
    - Provision of alternative modes of transportation – ridesharing and transit; and
    - Improved access to the East Lansing CBD and MSU campus

  The results of the study's TSM analysis indicated that significant improvements in the aggregate carrying capacity of Grand River Avenue could not be achieved through the use of TSM tactics. Benefits were realized but from a more localized effect, for example, such as improved traffic operations at on particular intersection.

  Measuring the impact of transportation mode shifts included the measurement of a traffic volume reduction resulting from a hypothetical 25% increase in transit usage and carpooling. This was equivalent to a 17% reduction in peak hour traffic on Grand River Avenue. Though this option proved to be very beneficial in improving traffic operations, it was noted that a 25% increase in transit usage was very unrealistic.

2.18 CATA – Route Profile Document

- Year Completed: 1990
- Lead Agency: CATA
- Relevance to Michigan / Grand River corridor: This document provides a historic system profile for each of CATA's bus routes.

  Summary: The profile include pertinent route data including ridership numbers, passengers per mile, payment type, ridership by time of day, average ridership, average revenue, origin-destination, etc.

2.19 Grand River Avenue (M-43) Corridor Study – Meridian Charter Township

- Year Completed: 1993

- Lead Agency: Meridian Charter Township
- Relevance to Michigan / Grand River corridor: The Grand River Avenue Study was completed to address traffic operations issues (i.e. access, circulation, congestion) in existing and redeveloping retail areas, as well as outward expansion along Grand River Avenue to more rural areas. The recommended driveway locations and service drive alignments will be considered relative to transit routes, stop location and pedestrian access.
- Summary: The goal of this study was to provide a guide for future development and redevelopment along the Grand River Avenue corridor to ensure economic vitality and enhancing corridor aesthetics for businesses, customers, residents and visitors that is consistent with function, capacity and design of the roadway. To follow through with this goal the following series of objectives were adhered to:
    - *Roadway/Transportation* – As a transportation corridor, Grand River Avenue should provide safe travel, convenient access to businesses and an attractive environment for motorists and pedestrians. MDOT and CATA are the primary transportation jurisdictions responsible for traffic and transit improvements.
    - *Development and Redevelopment* – The corridor should continue to serve as a dominate commercial center in the region.
    - *Site Design* – Site should be designed to meet the goals for good traffic operations and to provide a high quality attractive business environment.
    - *Implementation* – A partnership should be created between business and government leaders to implement the objectives of the study.

2.20 East Michigan Avenue Revitalization Plan

- Year Completed: 1994
- Lead Agency: City of Lansing
- Relevance to Michigan / Grand River corridor: This plan considered existing and future conditions along East Michigan Avenue for short-term (5 years) and long-term (20 years).

The recommended land uses and densities along the corridor will be considered relative to ridership projections and locations for major transit stops.

- Summary: This study was developed to provide a platform for economic and aesthetic revitalization effort of East Michigan Avenue. The overall process involved the generation of alternatives to develop a consensus direction for traffic and land use patterns; the development and review of recommended urban design alternatives by the task force; and public hearings along this segment of the corridor.

2.21 M-43/M-52 Corridor Access Management Study and Overlay District

- Year Completed: 2003/2004
- Lead Agency: Michigan DOT and Meridian Charter Township, the City of Williamston, Williamstown Township, Webberville, and Leroy Township
- Relevance to Michigan / Grand River corridor: The access management plan addresses Grand River Avenue in Meridian Township and communities further east. The plan recommends a corridor overlay district with access standards that apply to all lots and parcels with frontage along Grand River Avenue. The recommended driveway locations, service drive alignments and nonmotorized pathways will be considered relative to transit routes, stop location and pedestrian access.
- Summary: The M-43/52 Corridor Access Management Plan addresses continued development along the Grand River Avenue corridor and the associated increased traffic volumes affecting overall traffic operations and safety. The Plan includes specific access recommendations for individual properties as well as general recommendations that apply to a number of areas along the corridor. Recommendations are provided for driveway locations, shared access, service drives connecting adjacent properties and nonmotorized pathways. The plan sets a framework for cooperation on development and access management between the Michigan DOT, which has jurisdiction within the highway's right-of-way, and Meridian Township, which has authority over land use and site plan decisions with parcels along the highway. A key implementation tool for the plan was a model M-43/ M-52 overlay zoning district that applies over the existing zoning districts for all parcels within 350 feet of the M-43/M-52 right-of-way. The overlay zone provides specific

driveway spacing standards and design standards for service drives connecting adjacent businesses.

2.22 2005 Master Plan – Charter Township of Meridian: Comments Draft

- Year Completed: 2005
- Lead Agency: Meridian Charter Township
- Relevance to Michigan / Grand River corridor: Meridian Township is a stakeholder of the Michigan / Grand River Avenue Transportation Study process. The recommended land uses and densities along the corridor will be considered relative to ridership projections and locations for major transit stops.
- Summary: The plan considers the social, economic and environmental conditions that currently exist. It promotes development and redevelopment consistent with community goals, and tries to anticipate future demands for facilities and services. Additionally, the plan allows the township to make decisions, spend funds, and assess programs and services in an informed and rational manner. Useful to this study, the Master Plan includes a series of technical studies on the Township's population, housing, its economy, existing land use, infrastructure, community facilities, and natural features. The studies consist of data, evaluations, projections, and options concerning various aspects of community life.

  As the Master Plan relates to traffic and transit, the Township's roads are under the jurisdiction of the Michigan Department of Transportation (MDOT), which controls Grand River Avenue and Business Loop 69/Saginaw Road, and the Ingham County Road Commission (ICRC), which controls the remaining 200 miles of roads. The ICRC classifies roads as "primary" and "local." The Township contributes to the improvements of the 148 miles of local roads.

  Comparison of the Township with national standards shows the Township is nearly deficient in arterials. In recent years, the amount of traffic has increased the most on the arterials--Okemos, Hagadorn and Jolly Roads. The greatest percentage of traffic increase has occurred on these three roads and Central Park Drive. The Tri-County Regional Planning Commission's 2025 Regional Transportation Plan also identifies seven road segments in the Township that, unless improved, are predicted to be deficient by 2025. Of the Township's six bridges over the Red Cedar River, three need repairs or improvement.

Although limited in its ability to improve roads, the Township can make access to roads from driveways more efficient by requiring service drives where feasible, and can help control traffic increases by improving its public transportation and paved pathway system.

Capital Area Transportation Authority (CATA) provides public transit service to the Township. It has five fixed routes, a Redi-Ride service for special pickup and drop-off on request for Township residents and Spec-Tran service for the elderly and people with disabilities. The Grand Trunk and CSX railroads cut across the Township carrying goods and passengers but do not make any stops. Their road-level crossings cause some traffic and safety problems for drivers, bikers and pedestrians.

Since 1974, the Township has collected a dedicated tax of .28 mills to construct paved pathways for pedestrians and bikers. It plans to build 150 miles of pathways; to date it has constructed about 70 miles at the rate of about 1.3 miles per year. In addition, developers and federal grants have funded pathway construction.

2.23 Tri-County Regional Growth: Choices for the Future – Summary Report for the Lansing Metropolitan Area

- Year Completed: 2005
- Lead Agency: Tri-County Regional Planning Commission (TCRPC)
- Relevance to Michigan / Grand River corridor: Tri-County Regional Planning Organization is responsible for working with the regions citizens to study and understand regional land use and other growth trends. The recommendations for concentrated infill development of urban areas and minimization of sprawl serve as a basis for the projected population and employment projections along the corridor.
- Summary: This report provided a framework to consider how to best maintain a high quality of life while continuing to grow.

  Based on collected data concerning regional growth trends two potential regional growth scenarios were evaluated using travel forecasting models and other tools to assess their impacts on transportation, costs of public services, environmental and land use impacts and other criteria. The "Business as Usual" scenario future regional growth was depicted assuming present trends will continue without changes to current zoning and land use policies that guide and shape polices. The "Wise Growth" scenario assumed policies would be implemented to encourage new development be directed to already developed urban

areas (infill development), clustering of new development in proximity to developed areas and limited development in rural agriculture and open space areas. The two scenarios were modeled to compare their impacts to 2025 and at some future point when the entire region reaches the maximum "build out" permissible under existing zoning for all jurisdictions within the Tri-County region.

If the preferred regional vision set forth for "Wise Growth" was fully implemented it would:

- Reduce congested lanes on regional roads by 50 percent and save taxpayers between 1.6 and 4.8 billion dollars in road improvement costs.
- Save the equivalent of three townships of agricultural land and open space.
- Reduce air pollutants by tens of thousands of kilograms per day, leading to public health benefits and lower long term public health costs.
- Improve the region's quality of life and economic competiveness in an increasingly global economy greater than would occur under current public policies.

Input from the public it was determined the Wise Growth scenario was preferred by 79 percent of public participants. The Wise Growth scenario was adopted and took the form of written and map-based 29 specific principals described by the following five theme areas:

- Government;
- Healthy Economy – Healthy Environment
- Transportation and Other Infrastructure
- Open Space and Resource Protection;
- Growth and Redevelopment.

2.24 Traffic Impact Study for Proposed Michigan State University Parking Ramp – Grand River Avenue

- Year Completed: 2005
- Lead Agency: Michigan State University
- Relevance to Michigan / Grand River corridor: Proposed ramp access will have traffic impacts on Grand River Avenue. The access location and traffic patterns accessing the structure will be considered relative to any transit stops near the structure.

- Summary: Michigan State University proposed to replace Parking Lot 4 (196 spaces) located off of Circle Drive with a parking ramp containing 725 spaces. Entry and exit movements will occur from both Grand River Avenue and Circle Drive. The existing exit only drive on Grand River Avenue and the Circle Drive access will continue to service the new ramp, and an additional in/out driveway is proposed on Grand River Avenue. The parking ramp was expected to open in 2007.

  The purpose of this report was to document the assessment of the traffic impacts that the proposed Michigan State University Parking Ramp was expected to have on the adjacent intersections along Grand River Avenue. Mitigation measures based on traffic impacts expected by the year 2007, the completion date for ramp were suggested. The assessment included a review of existing roadway and intersection geometry, the proposed access points on Grand River Avenue, traffic control devices, and traffic volumes. The analysis examined the following conditions:

  - Existing Conditions: 2005 traffic volumes and operations.
  - Base Conditions: traffic conditions that would exist in 2007 without the proposed Michigan State University Parking Ramp.
  - Projected Conditions: traffic conditions that would exist in 2007 with the proposed MSU parking ramp.

  The report concluded the proposed ramp would add minor traffic volumes to Grand River Avenue but would primarily contribute to a change in the travel route for traffic that is already on Grand River Avenue. The main impacts would be at the campus accesses along Grand River Avenue which will see some traffic divert among movements as more people use the direct access to the ramp from Grand River Avenue, rather than access from Circle Drive. This would contribute to better traffic flow conditions on Circle Drive as less congestion would result and should also make a safer environment for drivers and pedestrians. This would result in less vehicle miles traveled and fewer emissions as people who park internal to campus can have a more direct route to a parking facility located on the campus border, rather than entering campus and driving indirect routes to reach a parking destination.

2.25 East Village Master Plan

- Year Completed: 2006

- Lead Agency: City of East Lansing
- Relevance to Michigan / Grand River corridor: East Grand River Avenue borders the study area. Plan provides recommendations for redevelopment, which will contribute towards transportation demand in the study area. The recommended land uses and densities will be considered relative to ridership projections and the design will be considered relative to a location for a transit stop at or near this redevelopment area.
- Summary: This Master Plan is a vision of what could be over the next 20 years for a specific area of the City of East Lansing. The Plan area, bound by East Grand River Avenue on the north, Hagadorn Road on the east, the Red Cedar River on the south and Bogue Street on the west, will be called "East Village." It is part of Planning Area 5 in the City of East Lansing Comprehensive Plan.

  Increasing development density is expected to increase the traffic in this and the surrounding areas. Like most "urban" projects, planning for traffic and circulation needs will be fundamental to successful project implementation. While the mixed-use nature of the proposed development places a greater emphasis on walkability and use of alternate transportation, the automobile will remain in the picture. For example, alternatives prepared for the East Village Planning Team anticipate nearly 5,000 parking spaces being needed in the area upon completion of redevelopment. As the initial redevelopment projects begin to take shape, examinations of the overall parking, traffic and circulation impacts, both in the short- and long-term, will be coordinated with the project developers.

  Goals and objectives stated in the Master Plan are not conceptual. Any development in the East Village Area will be required to comply with the goals and objectives stated throughout the document.

2.26 Parking System Master Plan

- Year Completed: 2006
- Lead Agency: City of East Lansing

- Relevance to Michigan / Grand River corridor: Grand River Avenue provides access to and from parking system covered in this plan. The projected usage rates for vehicular parking in East Lansing will be considered along with the potential for mode-shift to transit.

- Summary: The Parking System Master Plan (FY 2006-2011) guides the operation and financing of the municipal parking system. It updated the FY 2001-2006 Parking Master Plan, which met the need for longer range planning. Since the completion of the 2001-2006 Plan, several changes have occurred within the parking system and in the market it serves. The 2007-2011 Plan reviewed those changes, along with the mission and goals of the parking system and most importantly, provided a five year financial plan and detail strategic priorities for meeting the system's goals over the next five years.

  A review of the performance of the parking system over the previous five years was included as part of this Plan. Performance was evaluated from a system-wide standpoint and, where appropriate, analyzing three sub-areas (East, Core, & West). The following are the key highlights from the FY 2001-2006 performance:

  Financial Performance

  - With the exception of FY2002, the system continues to operate at or near the break even point.
  - Revenues and expenses have been increasing at comparable rates. Revenue increases in lots and ramps are due primarily to rate increases as opposed to increased volume of parkers. Increased expenses are due to increased personnel costs tied primarily to higher healthcare fees.
  - Recent changes in the parking fine revenue system have improved the short-term fiscal outlook and provided recent fiscal stability.

  System Utilization

  - The overall number of cars parking in the system is down significantly from 1998, but the rate of decrease has slowed in the past two years.
  - System utilization rates vary significantly across downtown sub-areas and between various facilities.

- The total annual sales of monthly permits sold has increased steadily since the 2003 fiscal year going from 7,295 in 2003 to 7,370 in 2004 and 7,584 in 2005. Current data for the 2006 fiscal year show that monthly permit sales are consistently at or above the number of those sold in the prior year.

Market Conditions

- The continuing shift in downtown business mix from traditional retail to fast food, fast casual, and service uses has negatively impacted utilization. This trend is expected to continue, with the hope that more destination dining and entertainment venues will offset some of the negative trends.
- The office market remains relatively stable and is likely to see a small resurgence in 2007 and beyond.
- Significant changes at MSU, including the addition of nearly 4,000 campus parking spaces has resulted in lower daytime parking volumes with fewer students parking in the system during the day.
- MSU is now constructing a new 752 space parking ramp along Grand River, south of Charles Street. The City must work closely with MSU to ensure that this facility does not undercut City parking.
- Stonehouse Village redevelopment project is under construction and will increase demand in the West Area. Several substantial development projects, including West Village, Lot 1, and Michigan Museum Place are in various planning stages.

2.27 Big Picture: Comprehensive Plan for the Future

- Year Completed: 2006
- Lead Agency: City of East Lansing
- Relevance to Michigan / Grand River corridor: The City of East Lansing is a partner in the Michigan / Grand River Avenue Transportation Study. Plan provides recommendations for land use and redevelopment of the corridor. The recommended land uses and densities along the corridor will be considered relative to ridership projections and locations for major transit stops.

- Summary: This document identifies the current conditions in each area of the City of East Lansing, the planning challenges faced by the City, and the Goals, Objectives and Actions that will shape our future. The Comprehensive Plan separated the City of East Lansing into neighborhood planning areas. The following include summaries from the Planning Areas as it relates to the existing transportation system and challenges as it relates to the Michigan and Grand River Avenues.

  Planning Area 4 - College Town

  Existing Conditions

  High traffic along Michigan Avenue discourages single-family use of the houses there, and many have been converted to rentals. The City's Engineering Department has devised a plan it hopes would make these homes more attractive for owner-occupancy. It proposes creating a service road on the north side of Michigan Avenue running from Harrison Avenue to Highland Avenue to service neighborhood streets. Careful consideration of the tradeoffs will be necessary, since this would require taking green space from the boulevard. This idea is still in the planning stage.

  Challenges and Opportunities

  Because of its central location, this Area enjoys proximity to campus, the Downtown and the region. Opportunities exist for additional non-auto access.

  - The popularity of the Riverwalk and Northern Tier Trails indicates a need to provide a connector between these two systems, perhaps along Coolidge Road and through Ranney Park.
  - To encourage bicycle access and safety, bikeways could be created throughout the neighborhoods to connect to the trails and bike lanes along major streets.

  Planning Area 5

  Planning Area 5 includes older neighborhoods close to campus and the Downtown, the northeastern quadrant of MSU, and, for planning purposes, parts of Meridian Township immediately adjacent to these areas. Burcham Road east of Abbot Road is its northern boundary.

Existing Conditions

Renters occupy nearly the entire 30 acres south of Grand River Avenue between Bogue Street and Hagadorn Road in 61 properties ranging from single-family detached houses to low-rise apartment buildings. Most of the open space is paved over for parking, and the Red Cedar River is cut off from public access. Its proximity to MSU and the Downtown makes this area highly attractive for redevelopment into a multi-use "Urban Village," with safe, high quality rental and owner-occupied housing units as well as neighborhood retail and services.

CATA serves the Area well, operating nine routes on campus 24 hours a day, seven days a week during fall and spring semesters. Several other routes provide service throughout the City to campus, Lansing, and the Meridian Mall. The 2002 East Grand River Corridor Study recommended a series of improvements. Those involving pedestrian traffic have been implemented, including wider sidewalks, marked crosswalks, a crossing signal at Stoddard Avenue and pocket parks. The recommendation to create a divided roadway was not supported by local property and business owners who were concerned it might impede auto access to their businesses.

Some of the City's highest traffic counts occur at the intersection of Hagadorn Road and Grand River Avenue. The Area handles a large volume of east-west traffic as well as to and from MSU. The University's Master Plan calls for more research facilities, which will increase employment—and traffic. Hannah Plaza and surrounding developments place increased traffic demands on Hagadorn Road as well. Traffic flow needs to include consideration of the number of accidents and the impact of numerous driveways in the vicinity.

The City's Bike Route Master Plan calls for routes throughout the Area. Linkages could be created to bike paths and walkways to MSU and Meridian Township.

Challenges and Opportunities

- High traffic volumes and safety concerns need to be addressed along East Grand River Avenue, especially at the Hagadorn Road intersection.
- Pedestrian and bicycle safety along and across East Grand River Avenue also needs to be addressed, possibly through implementation of the East Grand River Avenue plan.
- Ways to improve the City's eastern gateway and the East Grand River Avenue corridor need continued exploration.

Planning Area 7 - Downtown East Lansing

Planning Area 7, includes Downtown East Lansing, nearby residential neighborhoods and north-central MSU.

Existing Conditions

CATA serves the Area well with east-west routes to Meridian Mall and Lansing and north-south routes from campus to new development at the City's borders. The street network works quite well, with a few exceptions. The lack of outbound left turns at Grand River Avenue causes confusion to drivers trying to exit the Downtown. It is also difficult for drivers along Albert Avenue to figure out where Grand River Avenue businesses are located so they can park conveniently. Public parking is ample for current demand. The Downtown's size makes it very walkable. Albert Avenue, with its reasonable traffic volume, community events and street level commercial activity, is beginning to act as a "main street." Pedestrian and bicycle connections should be strengthened eastwest, as well as outwards in every direction. Pedestrian crossings along Abbott Road are a challenge, with increasingly heavy traffic there.

Challenges and Opportunities

Clear and logical patterns of circulation are necessary to make the downtown environment safe and user friendly.

- Consider alternative routes into and out of the downtown. Any formal changes in traffic routes would require extensive study by the East Lansing Transportation Commission and input from affected property owners and the neighborhood.
- More options for access to eastbound Grand River Avenue would reduce driver confusion when leaving the Downtown and alleviate some of the congestion at Abbott Road. One solution would be to allow left turns from M.A.C. Avenue and Collingwood Drive onto eastbound Grand River Avenue.
- A third approach to making the Downtown function better for all modes of transportation would be the addition of a consistent signage system with clear directional information for drivers, bicyclists and pedestrians.

2.28 Traffic Impact Study for the Proposed Walgreens Pharmacy - Okemos

- Year Completed: 2007
- Lead Agency: Meridian Charter Township
- Relevance to Michigan / Grand River Corridor: The detailed traffic impact analysis at the intersection of Grand River Avenue and Okemos Road will assist in the overall optimization of corridor operations.
- Summary: The purpose of this report was to determine the impact of traffic to be generated by a proposed Walgreens Pharmacy located on the southwest quadrant of Grand River Avenue and Okemos Road. The tasks completed for this project included:
    - Analysis of existing traffic conditions.
    - Analysis of background conditions for future year (2008) volumes without the proposed development and projection of traffic volumes with the proposed development.
    - Evaluation of the impact of future volumes to be generated by the proposed Walgreens Pharmacy.
    - Determination of what roadway and traffic control improvements, if any, would be needed to accommodate future (2008) volumes.

  Supplemental traffic analysis information included as part of this report that can be referenced at this vicinity includes: vehicle turning movement surveys (Grand River Avenue and Okemos Road); and level of service (LOS) computations.

2.29 Customer Survey Technical Memorandum

- Year Completed: 2007
- Lead Agency: CATA
- Relevance to Michigan / Grand River corridor: The information in this report will help CATA optimize operations and forecast its future demands and the challenges coming in the

next five years. The recommendations of this report will be considered with the recommended transit enhancements for the corridor.

- Summary: This technical memorandum documents an on-board survey of riders on CATA's transit system conducted in February 2007. The purpose of the survey was to ascertain passenger needs and to determine transfer patterns and origin/destination patterns.

  In addition, this technical memorandum summarizes customer and in-house complaints, recommendations and requests collected between 2004 and 2006. The customer feedback collected from these sources will be used to develop a series of service and capital modification options to improve productivity, efficiency and effectiveness to extend system services to new markets, and to address identified unmet transit needs.

2.30 CATA Final Comprehensive Analysis Report

- Year Completed: 2008
- Lead Agency: CATA
- Relevance to Michigan / Grand River corridor: The information in this report will help CATA optimize operations and forecast its future demands and the challenges coming in the next five years. The recommendations of this report will be considered with the recommended transit enhancements for the corridor.

  Summary: This analysis examined whether the existing services meet the community's mobility needs and whether existing services are the most cost-effective way to serve those needs. This report describes the analysis of CATA's existing route operations and presents service improvement alternatives. Among the subjects covered in this document were:

  - Identification of transportation needs through driver input and operations supervisors
  - On-board survey of CATA riders
  - Demographics
  - Service analysis, including span of service, frequency of service, transfers, schedule adherence, and ridership

- Productivity, efficiency and effectiveness of route operations
- Route profiles, and
- Route improvement packages

The route improvement packages were developed from a number of resources including market research information, existing ridership patterns, stakeholder interviews, driver interviews, and the resultant unmet needs determination. The recommendations are phased and are fiscally constrained. In the end, this project will help CATA optimize operations and forecast its future demands and the challenges coming in the next five years.

2.31 Transforming the Michigan Avenue Corridor: A Complete Streets and Transit Oriented Development Study: Final and Summary Reports

- Year Completed: 2009
- Lead Agency: MSU Student Research Team
- Relevance to Michigan / Grand River corridor: Michigan Avenue is included in the scope of this multimodal study. The concepts for streetscape enhancement, multi-modal transportation and infill development will be considered relative to recommended transit enhancements.
- Summary: The goal of planning and redevelopment efforts on the Michigan Avenue Corridor is to create an attractive and economically viable corridor that connects the state's largest university with the state capital. This project is only a piece of a larger project that aims to make Michigan Avenue a high-performing public transit, cultural and economic development corridor. In order to make the Michigan Avenue Corridor less automobile dominated, safer, and more attractive for all users, to encourage more pedestrian activity, thus, creating vibrancy, the study recommended implementing traffic calming design elements, redeveloping underutilized land, and adding infrastructure that accommodates all forms of transportation.

  A "complete streets" analysis was completed to determine the extent to which the Michigan Avenue Corridor permits walking, biking, driving, and transit, and accommodates all ages and physical abilities. This included

- Researched the components/guidelines of "complete streets" and defined complete streets in the context of Michigan Avenue and its users
- Block-by-block inventory/analysis
- Block-by-block and corridor-wide recommendations for becoming a complete street

The potential for Transit Oriented Development (TOD) on the Corridor was also evaluated as noted by the following process:

- Researched TOD and possible existing guidelines
- Created guidelines/criteria for determining suitability for TOD
- Applied these criteria to the Corridor to determine current and potential sites where TOD principles can be applied
- Provided recommendations for a feasible transit system for the Corridor

This study noted the following strengths and weaknesses along the Michigan Avenue Corridor:

Weaknesses

- Does not provide safe accommodations for pedestrians, bicyclists and transit-users
- Is dominated by automobiles
- Has an abundance of space dedicated to parking
- Is not handicap accessible
- Does not provide a quick means of travel by transit
- Does not have the conditions necessary to support large-scale transit
- Lacks attractive design features
- Consists of low-density development that creates a disconnected visual appearance
- Does not take advantage of proximity to nearby attractions

Strengths

- Is located in close proximity to or is home to popular destinations

- Falls within the capitol city of Michigan and the state's largest university
- Contains many diverse and local businesses
- High ridership for local transit
- Community interest in walkability and bikeability

The study noted Michigan Avenue Corridor does offer great potential for becoming a viable and attractive corridor. Upon determining the existing conditions of the Corridor, the following general recommendations for improvement were provided:

- Implement road diet along entire the corridor
- Provide bicycle infrastructure
- Provide transit infrastructure that encourages transit use by residents and visitors
- Pedestrian infrastructure that allows safe access for all
- Parking and access management that reduces the impact of parking
- building improvements to create an attractive and consistent street design
- Guide future developments to be pedestrian and transit-oriented enhance strengths of the corridor
- Develop a multi-modal transportation hub and corridor-wide transit system
- Revitalize Frandor shopping center and Red Cedar Golf Course

2.32 Route 1 - CATA Ridership: 1999 - 2009

- Year Completed: 2009
- Lead Agency: CATA
- Relevance to Michigan / Grand River corridor: Route 1 is located on Michigan and Grand River Avenues serving downtown Lansing to Meridian Mall. Ridership rates will be considered in projections and the feasibility of enhance transit for the corridor.
- Summary: Route 1 ridership numbers from 1999 through March 2009.

3.0 ONGOING STUDIES

3.1 DRAFT Michigan Avenue Corridor Conceptual Development Plan

- Lead Agency: City of Lansing, City of East Lansing, Lansing Township
- Relevance to Michigan / Grand River corridor: This study ties in directly with this multimodal study. The recommended enhancements to the streetscape and nonmotorized pathways will be considered relative to the alternative concepts for enhanced transit along the corridor.
- Summary: The Michigan Avenue corridor that links downtown Lansing with downtown East Lansing is an important transportation artery. It is also a critical link between the downtowns and between the State Capital and Michigan State University. Improving this corridor will result in connecting a multitude of important employers and cultural resources into a distinctly cohesive and welcoming district.

  An exploratory committee was established to consider the unique opportunity presented by recent passage of the Corridor Improvement Authority Act (CIAA) to revitalize the Michigan Avenue Corridor, from the Pere Marquette railroad crossing to Grand River Avenue. Committee members were asked to articulate a vision for the future of the Michigan Avenue Corridor, and develop a preliminary plan to achieve that vision by building upon the corridor's current strengths.

  The CIAA was passed by the Michigan legislature in 2005 and amended in 2007. It provides for the creation of a public economic development corporation that will work to "correct and prevent deterioration in business districts, encourage historic preservation, promote economic growth." The act requires that all corridor improvement authorities allow for mixed use and high density residential, that they expedite permitting, and that they support non-motorized transportation. It also allows multiple municipalities to collaborate and establish one, unified authority. Working together, different local units of government that share a corridor are able to leverage their investment by defraying some of the costs of redevelopment and sharing resources that can be invested in improvements. A multiple jurisdiction corridor improvement authority also embraces the fact that many of the challenges facing communities ignore political boundaries and should be addressed through regional cooperation.

The revitalization project is the result of a partnership between the City of East Lansing, City of Lansing, Lansing Township and Michigan State University. The ultimate goal of the project is to revitalize and beautify the Michigan Avenue corridor to make it more walkable, attract a larger base of customers and create a pleasant living environment for surrounding neighbors.

3.2 Saginaw Street Corridor Act Authority (CIAA) Priorities & CIAA for Saginaw Street Tax Capture

- Lead Agency: Saginaw Street Corridor Improvement Authority Exploratory Committee
- Relevance to Michigan / Grand River corridor: CIAA can serve as vehicle for regional collaboration similar to the Michigan Avenue Corridor Improvement Authority which spans three different municipalities. The recommended improvements for Saginaw Street will be considered relative to this corridor study.
- Summary: This program will assist development of priorities for the Saginaw Street Improvement Act Authority and will create new tools and funding improvement to Saginaw Street.

3.3 Non-Motorized Transportation Plan

- Lead Agency: City of East Lansing
- Relevance to Michigan / Grand River corridor: This project ties in directly with the Michigan / Grand River Avenue Transportation Study. The recommendations for nonmotorized pathways will be considered relative to pedestrian access to the corridor and major transit stops.
- Summary: The Non-motorized Transportation Plan will reflect a consensus vision of how the City of East Lansing will over time transform its streets, its development patterns, its government and its community outreach to establish an environment that makes walking and bicycling an obvious, safe and attractive option.

3.4 DRAFT City of Lansing Comprehensive Master Plan

- Lead Agency: City of Lansing

- Relevance to Michigan / Grand River corridor: The City of Lansing is a partner in the Michigan / Grand River Avenue Transportation Study. The recommended land uses and densities along the corridor will be considered relative to ridership projections and locations for major transit stops.

- Summary: This document identifies the current conditions of the City of Lansing, the planning challenges faced by the City, and will define a vision for the future with specific recommendations to help achieve that vision. Recommendations of the Plan will include action items relating to land use and transportation throughout Lansing.

3.5 DRAFT Regional Asset Assessment Report of the Lansing Metropolitan Region

- Lead Agency: Land Policy Institute, Michigan State University

- Relevance to Michigan / Grand River corridor: This asset-based economic development strategies discussed in the study ties in directly with the Michigan / Grand River Avenue Transportation Study.

- Summary: This study documents how the Lansing-East Lansing metropolitan area is at a crossroads. In the past, economic growth was linked to the accumulation of infrastructure well suited for traditional production of goods (e.g., roads, bridges, banks, skilled labor, managers and highways). However, the report notes the traditional production component of the economy has dwindled and is increasingly being replaced by high value services and products that define the New Economy. The key to the New Economy is knowledgeable talented workers and companies, whose choices of location and community are not as limited as before.

  This report emphasizes to create a great place – a great region with two great central cities and a dozen great satellite small towns separated by quality farms and open space – requires the development of a common vision for the future of the region, and implementation of a targeted regional strategy. The New Economy is global and the new economic unit is the region. Talent is the new currency. The new economic playing field favors interconnected regions with easy access to global markets. The regions with the greatest chance for success are those with concentrations of talent. That requires a high quality of life that is attractive to

knowledge workers. The Lansing-East Lansing metropolitan area has many of the key assets to be able to be transformed into one of those places, but right now is far from being there. This report lays out the key assets of this region that can be used as building blocks for future prosperity.