

Chapter Seven

Transportation Systems



I. Introduction

With the exception of the Lower Town, Pontiac Trail and Broadway Street neighborhoods, the Northeast Area was largely developed in the automobile era. In the early 1950's, architect Eero Saarinen laid out the University of Michigan North Campus with wide boulevards and curving streets creating a pastoral, suburban campus. The state highway department acquired farmland to build new freeways – US-23 and M-14 – to connect growing job centers in the Detroit region. City Council approved the construction of Huron Parkway in 1964 as a curving boulevard connecting the newly expanding city north and south of the Huron River.

As the farmland in the Northeast Area began to be developed into research campuses and residential neighborhoods in the 1950's and 60's, the new development was accessed from a well-established radial street pattern. Plymouth, Nixon, Geddes/Fuller, Pontiac Trail and Whitmore Lake Roads were constructed in the 19th century to bring goods from farm fields to the businesses and train stations downtown. Washtenaw Avenue developed to provide a main link between Ann Arbor and a string of growing cities radiating westward out from Detroit. The road system funneled traffic to a few key bridges over the Huron River at Broadway, Huron Parkway and Dixboro Road.

While the framework of radial streets in the Northeast Area is similar to that found in the rest of the city, the subdivisions that developed in the Northeast Area were distinctly different. Instead of the traditional street grid pattern, many contemporary subdivisions were characterized by a collector street "spine" with cul-de-sacs and short looping streets. While this pattern creates a number of low-traffic streets, it also results in fewer linkages between streets, increasing the traffic demand on collector and arterial streets. In addition, as residential development moved outside of the city to surrounding townships, connections between the local street system and the freeway system became more important, impacting interchanges at Washtenaw, Geddes, Plymouth and Barton/Main.

In the 1980's, the City explored whether the remaining segment of the city's "inner beltway" - Huron Parkway to M-14 - should be built. The 1989 Northeast Area Plan recommended that the segment from Tuebingen Parkway to Pontiac Trail not be constructed because of environmental and neighborhood impacts on Leslie Park and adjoining neighborhoods. The plan retained the possibility for moving the existing Barton/M-14 interchange north to the remaining segment of the Huron Parkway right-of-way.

II. Issues

Traffic congestion was identified as a significant concern of many participants in the Northeast Area Plan public workshops. These concerns included the ability to drive to destinations, but also included the impact of neighborhood auto traffic on residents' quality of life. With the location of several major employers in or adjacent to the Northeast Area, the impact of commuters, many in single-occupant vehicles, was called out as a concern.

The 1990 Transportation Plan Update concluded that the way to address the increasing pressure on arterials such as Plymouth, Washtenaw and Fuller/Geddes was to use congestion as a tool to shift travelers to other modes of transportation. This strategy, known as Transportation Demand Management (TDM), has not been fully implemented as outlined in the plan. However, the TDM approach has guided city policy decisions since that time, limiting widenings to selected intersections and focusing attention on non-motorized and transit improvements.

In 2001, the Planning Commission initiated the Northeast Area Transportation Plan (NEATP), a multi-modal update of the 1990 Transportation Plan Update for this growing area of the city. The NEATP and the Northeast Area Plan (NEAP) were developed in tandem, and this chapter summarizes the key issues identified as part of these planning efforts.

A. Congestion/Growth in Travel Demand

As a first step in the NEATP process, growth in employment and households was projected to the year 2020. For the Northeast Area, this growth was based on projections for the region developed by the Southeast Michigan Council of Governments, with refinements developed by City staff based on knowledge of potential development projects. A total of 26,700 jobs, an increase of 37% over the baseline year of 2000, are projected for the Northeast Area. Total households are projected to increase to 17,000 households, an increase of 36% over 2000 levels.

These projections were used in two successive computer simulation models, TranPlan and TransCAD, to make assignments of 2020 average daily traffic for the Northeast Area. The ratio of 2020 traffic volumes to the capacity of existing roadways was evaluated to provide a tool to identify areas of projected congestion. The TransCAD model also allowed for an evaluation of transit alternatives. Throughout the NEATP, different scenarios for addressing transportation issues were tested using the models. A detailed description of the process and results is found in the Northeast Area Transportation Plan.

B. Interchange Access

With the growth of residential areas outside of the city and the development of the Northeast Area as a major employment center, the importance of freeway interchanges to the local transportation system has increased. The NEATP explored whether access from the freeway system to the surface streets could be improved without unduly impacting the environment or the quality of life of residential neighborhoods. The planning process screened almost two dozen possible alternatives and provided detailed analysis of five alternatives for addressing freeway access to M-14 and US-23, plus a no-action alternative. The plan concluded that there were no feasible opportunities for increasing freeway access to the Northeast Area. In addition,

the analysis concluded that a portion of the Barton/M-14 interchange should be closed to improve safety and reduce neighborhood traffic impacts.

C. Transit

The Ann Arbor Transportation Authority (AATA) currently operates 7 bus routes that serve the Northeast Area. The University of Michigan also operates service from Central Campus to North Campus, as well as commuter park-and-ride lots. Currently, four percent of daily trips in the Northeast Area are provided by AATA or University of Michigan transit vehicles.

The AATA indicates that it can provide service most cost-effectively to neighborhoods with higher residential densities because it has a higher “capture rate” (more potential riders per acre). Service cannot be provided cost effectively to neighborhoods with low residential densities. AATA indicates that gross regional residential densities of between 4-7 dwelling units per acre can sustain transit service. Gross regional residential densities include homes, schools, churches, parks and other uses common in residential areas. Higher densities also encourage increased service frequency (e.g., bus service every hour could change to every 30 or 15 minutes if densities along the route are high enough). Densities vary dramatically in the Northeast Area from some neighborhoods with densities above 50 dwelling units per acre to some neighborhoods with fewer than one dwelling unit per acre.

The NEATP analysis examined the preliminary land use recommendations from the Northeast Area Plan to determine their effects on transit and automobile travel. While data from the model project an increase from 1998 to 2020 in the number of bicycle, pedestrian and transit trips in the Northeast Area, greater growth is anticipated in auto use, both single-occupant and carpool, largely as a result of the projected demographics for the area and growth in areas outside of the City. Overall, the results indicate that changing the residential land use density recommendations from those proposed in the NEAP will have only small overall effects on the Northeast Area’s travel characteristics.

Various private and public organizations have expressed an interest in establishing commuter rail service between Ann Arbor and Detroit. This rail service could provide stops in Ann Arbor at the Amtrak railroad station located near Lower Town. The Southeast Michigan Council of Governments currently is studying the feasibility of this and other transit options. If the Detroit to Ann Arbor rail proposal becomes a reality, the land use recommendations of this plan should be revisited to provide for transit-oriented development strategies, such as mixed use and higher densities to support the commuter rail service.

D. Non-Motorized

Based on feedback from the public meetings for both the NEAP and the NEATP, there is a strong interest in improving bicycle and pedestrian access in the Northeast Area. The Northeast Area Transportation Plan evaluates the existing non-motorized transportation conditions in the Northeast Area and identifies specific recommendations to create and enhance opportunities for non-motorized travel. The NEATP includes proposed pedestrian and bicycle facilities, as well as specific facility designs for primary arterials, minor arterials, and urban collectors.

In 2003, the City of Ann Arbor initiated a comprehensive, citywide non-motorized transportation plan. Once adopted, the plan will outline recommendations for improving pedestrian and bicycle modes of travel throughout Ann Arbor, building on the initial analysis done for the Northeast

Area. The Plan will help increase public awareness of the condition of non-motorized transportation and elevate the importance of prioritizing the construction of pedestrian and bicycle facilities.

In addition to the policy and facility recommendations made for non-motorized transportation in the NEATP, the land use recommendations found in Chapters 6 and 10 of the Northeast Area Plan attempt to create and enhance opportunities for non-motorized modes of travel with the goal of increasing the total number of non-motorized trips. Chapter 6 includes a section called “Community Oriented Design” which identifies ways that projects can be built to encourage pedestrian and bicycle access. Those recommendations include, among others, a) interconnected streets that encourage pedestrian and bicycle access by reducing trip distances; b) street-facing building entries and reduced setbacks to encourage convenient pedestrian access; and c) pedestrian, bicycle and transit connections and amenities such as sidewalks, bicycle lanes, shared-use paths, bicycle storage facilities and sheltered bus stops, all of which are intended to enhance the travel experience of pedestrians and bicyclists. The site-specific recommendations in Chapter 10 include developing a number of mixed-use centers, which should create opportunities for pedestrian and bicycle activity.

E. Roadways

The 1990 Transportation Plan Update recommended that no roadway widenings occur until other strategies, such as transportation demand management, were tried first. Since that time, average daily traffic on Plymouth Road, east of Nixon Road, has grown by 40%. Additional turn lanes have been added to the Plymouth/Green, Huron Parkway/Washtenaw, and Huron Parkway/Geddes intersections due to continued back-ups. However, no additional roadway widenings have occurred in the Northeast Area since the 1990 Transportation Plan Update was adopted.

The NEATP analysis of current and projected 2020 traffic on the existing roadway system found that there would be a number of locations in or near the Northeast Area that would not be able to meet the Level of Service C standard currently used for traffic planning. Using a Level of Service D standard, which allows for more delay on roads and intersections, reduces the list of problem areas to nine intersections in and adjacent to the Northeast Area:

- Plymouth/Maiden Lane and Moore
- Plymouth and Huron Parkway
- Washtenaw and Huron Parkway
- Washtenaw and Yost
- Geddes and Earhart
- Main and Kingsley/Beakes
- Main and Depot

Recommended improvements for these intersections are outlined in The Northeast Transportation Plan.

In addition to expanding capacity at congested intersections, the NEATP calls for expanding the SCOOT (Split, Cycle and Offset Optimizer Technique) traffic control system. This approach allows for traffic signals to work together in high traffic corridors, optimizing signal timing by using real-time traffic data. The NEATP recommends the application of further SCOOT

connections, along with access management improvements, to address increasing vehicular congestion without widening roadways.

F. Neighborhood Street Design

Prior to the Second World War, neighborhood streets were generally more narrow and interconnected than streets of today. Pre-war minor streets often provided sidewalks and tree lined lawn extensions (the area between sidewalk and the street) that provided an attractive pedestrian environment. Narrower streets slowed traffic and minimized imperviousness.

The increasing popularity of the automobile eventually led to a neighborhood street pattern which includes increased street widths, longer blocks, cul-de-sacs and, occasionally, the absence of sidewalks. As these conventional streets became more common, vehicular speeds increased and pedestrians and bicyclists became less comfortable on or along them.

An increasing number of development projects throughout the U.S. are attempting to re-create traditional streets, referring to such projects as “walkable”, “new urbanist”, or “transit-oriented development”. A primary characteristic of successful pedestrian and bicycle oriented neighborhood streets is the reduced scale of many design elements. Design elements include street width, lawn extensions, sidewalks, setbacks, and lot size.

Scale helps determine whether a neighborhood street has primarily a pedestrian orientation or automobile orientation. The narrow, interconnected, tree-lined streets with sidewalks characteristic of many Ann Arbor’s pre-war neighborhoods, provide for neighborhood patterns that are generally pleasant for the pedestrian.

New residential development should provide residential streets that encourage pedestrian activity. Blocks should be shorter, with street and sidewalk connections throughout the development and to adjacent neighborhoods. Street trees and sidewalks should be provided on both sides of the streets. Safe, visible crosswalks should be provided in appropriate locations. Streets should include design elements that encourage bicycle access as well.

G. Major Corridors

Huron Parkway

This transportation corridor is the major north/south transportation spine in the Northeast Area, connecting the north and east parts of the city over the Huron River. In 1996, Huron Parkway south of Plymouth handled approximately 16,000 average daily trips. In 2020, this segment is projected to handle approximately 15,000 average daily trips.

Considered by many to be the most scenic major roadway in Ann Arbor, Huron Parkway was developed from its beginning using strict design standards. According to a 1964 memorandum to City Council from City Administrator Guy C. Larcom, Jr., “this is not a limited access highway...but is intended as a controlled access road with access carefully limited to the number and location points necessary for public convenience. With some exception, most stretches of road will not be accessible directly from private property”.

Any future development that is proposed along the Huron Parkway must respect the scenic integrity of the corridor. Setbacks should be provided that are generally consistent with the

larger setbacks of the corridor. Extensive native landscaping should be planted along the frontage to maintain the natural feel of the Parkway. Vehicular access should be limited to those access points identified in the 1964 design standards, unless no feasible alternative exists.

Geddes/Fuller

The Geddes/Fuller corridor is one of the main east-west routes for travel between the area's three major medical centers. In 1998, Geddes Road east of Huron Parkway handled approximately 16,700 average daily trips. Projected traffic in 2020 is 17,750 average daily trips.

In 1994, the Geddes/Fuller/Conrail Corridor Study was completed for the City of Ann Arbor, the University of Michigan and the Ann Arbor Transportation Authority, and adopted as an element of the City master plan. The study analyzed and developed transportation alternatives for the corridor with an emphasis on preferential transit, non-motorized options and other transportation improvements, such as the addition of turn lanes at congested intersections. Initial studies of the corridor indicate that the Fuller/Geddes corridor has a relatively high vehicle occupancy rate, compared to other corridors. However, AATA has not been successful in obtaining permission from the Norfolk-Southern Railroad to implement the recommended one-lane bus way.

Because of sensitive environmental features adjacent to the segment of Fuller/Geddes between Glazier Way and Earhart, new development must limit disturbance of woodlands and wetlands and stormwater run-off impacts on the Huron River. The NEATP identifies the need for a non-motorized linkage from Huron Parkway to Concordia University, but recognizes the need to preserve the character of the roadway. As a result, the non-motorized linkage may need to be placed away from the roadway on City parkland and easements over private property.

Fuller Road between the University of Michigan Medical Center and Huron Parkway includes a number of surface parking lots. The City should work with the University of Michigan to identify opportunities to consolidate parking areas in structures and in remote locations to help restore the scenic character of the Huron River valley.

Plymouth

Plymouth Road is a major east/west transportation corridor that is lined with commercial, residential, office and public uses. Commercial centers along Plymouth Road attract vehicular trips during peak and off-peak hours. Major employment centers along the Plymouth Road corridor generate significant traffic congestion during peak travel periods. The freeway interchange at US-23 also attracts trips of commuters with destinations beyond the Northeast Area. In 1998, Plymouth Road east of Commonwealth Boulevard handled approximately 32,000 average daily trips. This segment is projected to increase by 19%, to 38,000 average daily trips in 2020.

Future development along Plymouth Road should minimize or eliminate curb cuts to reduce traffic conflicts. Development projects should also provide extensive landscaping along the frontage to enhance the physical appearance of the road.

Washtenaw

A major east/west thoroughfare on the east side of Ann Arbor, this corridor is also the southern boundary of the Northeast Area. As a gateway to Ann Arbor and the University of Michigan, a major commercial corridor, a state trunkline, and the most heavily used stretch of roadway in Ann Arbor, Washtenaw Avenue experiences a significant amount of peak and off-peak traffic. In 2003, Washtenaw Avenue west of Pittsfield handled approximately 43,000 average daily trips. In 2020, that segment is projected to handle 47,400 average daily trips.

Washtenaw Avenue between US-23 and Platt Road contains primarily commercial uses. Numerous development and redevelopment projects have taken place during the late 20th century, most notably the re-construction of Arborland Mall. New development and redevelopment should be consistent with the following recommendations:

- Parking lots for commercial centers should not be the dominant feature that fronts Washtenaw Avenue. Commercial buildings should front the right-of-way to encourage pedestrian access and reduce the amount of pavement that is visible along this gateway of Ann Arbor. Parking lots should be interconnected to reduce the number of curb cuts on Washtenaw Avenue.
- Setbacks should be reduced to encourage pedestrian access and allow greater design flexibility.
- Residential and mixed-use projects should be encouraged to promote a more active pedestrian environment.
- Extensive landscaping should be provided in the front open space.
- Building materials that convey a sense of permanence, such as brick, should be used to help improve the appearance of this gateway corridor.
- Parking lot and street lighting should replace “cobra-head” lamps with lamps that provide adequate lighting but limit the amount of light “overflow” and enhance the aesthetic nature of the area.
- Sidewalks and other non-motorized facilities should be interconnected and integrated with land uses on both sides of the street.
- Retail Centers should include awnings or overhangs to protect pedestrians from inclement weather.

East-West Collector (Chalmers Area)

In 1988, the Ann Arbor-Ypsilanti Urban Area Transportation Study (now known as the Washtenaw Area Transportation Study) adopted the Clark Road Corridor Study. This study recommended that Clark Road be extended over US-23 to Huron Parkway to provide an additional arterial to address the projected growth in east-west travel demand, particularly on Washtenaw Avenue east of Huron Parkway. The 1989 Northeast Area Plan supported this recommendation, in addition to other improvements to address east-west travel demand.

In 1995, Planning Commission commissioned UATS to conduct a study of an area bounded by Washtenaw, Huron Parkway, Huron River Drive and Hogback Road to determine appropriate access and traffic circulation for new residential development north of Arborland Mall. The study concluded that the two potential residential developments would not require the extension of Clark Road to address the projected trip generation, although both developments, along with Arborland Mall, would benefit from the increased accessibility to the regional roadway system. Two ultimate access scenarios were identified, each providing access to the north, south, east

and west. Both scenarios included ultimate connections to Huron Parkway, Clark Road, and Washtenaw Avenue (via the Arborland Mall site). The two scenarios provided alternative treatments for the northern access to Huron River Drive: one scenario called for paving Chalmers to residential collector standards, and the other called for a new north drive from the Van Curler site, intersecting Huron River Drive to the east of the Chalmers intersection.

City Council accepted the resulting circulation options outlined in the Woodcreek Area Traffic Circulation Study and adopted a resolution laying out short- and long-term implementation actions:

1. *Encourage the development of an east-west collector road along the southern property line of Woodcreek and, preferably, along the southern property line of the Van Curler [Site 10] property. A 90-foot width, at minimum, is recommended. This would provide future Commissions and Councils the flexibility and opportunity to allow for a preferred north/south route between Huron River Drive and Washtenaw Avenue, access to the Van Curler property if high quality wetlands would be destroyed by a “new” north access to Huron River Drive, and an access to Chalmers Drive for Woodcreek coupled with a south connection to Washtenaw Avenue;*
2. *Investigate the feasibility of intersection improvements at the intersection of Chalmers Drive and Huron River Drive for the purpose of improving the sight distance and safety of turning movements;*
3. *Facilitate the development of a northern access from the Van Curler property to Huron River Drive. This road would connect, at minimum, to the stub road at the eastern edge of Woodcreek Development;*
4. *Facilitate the development of a two-way road along Arborland’s western boundary for the purpose of developing a south access for the Woodcreek and Van Curler developments.*

Subsequent to this Council action, the City purchased a 90-foot wide right-of-way along the southern boundary of the Woodcreek project; the developers of Brentwood Square, a new development located between Huron Parkway and Chalmers, conveyed a 90-foot wide parcel north of Mallett’s Creek for future right-of-way; and the owners of Arborland Mall conveyed a 50-foot wide future right-of-way along the shopping center’s western boundary.

The question of appropriate road access was raised again in response to a residential project proposed for Site 10 (the Van Curler property) in 2002. The consultant for the NEATP evaluated the traffic impact statement for the proposed development, known as South Pond Village, in 2004. The analysis concurred with the traffic impact statement’s conclusions that:

- *Pittsfield Boulevard should be extended north through Arborland Mall to Wood Creek; most of the extension should operate as a one-way, southbound-only roadway.*
- *Two-way access to the rear of Arborland would not unduly impact the future east-west collector. The access should be provided either by allowing two-way traffic on the portion of Pittsfield Boulevard directly west of the Mall’s detention basin, or by keeping that section one-way south and extending the drive east of the basin one-way north to the future east-west collector.*

- *To mitigate current traffic delays, the northbound, right-turn movement from Pittsfield Boulevard to Washtenaw Avenue should be provided a protected signal phase during the same time the westbound left-turn arrow is displayed. Also, when funding allows, the Michigan Department of Transportation and/or City of Ann Arbor should add a third eastbound thru-lane on Washtenaw, from about 250 feet west of Pittsfield to the U.S. 23 interchange.*
- *When the east-west collector is extended to Huron Parkway, the City should periodically evaluate actual traffic volumes with respect to published traffic signal installation warrants.*

The Northeast Area Transportation Plan does not recommend extending the proposed east-west collector over US-23 to connect to Clark Road. The NEATP identified other strategies, such as boulevarding Washtenaw and improving transit headways, to deal with the projected traffic demand in the Washtenaw corridor.

III Transportation Goals and Objectives

Goal A: To provide appropriate access and mobility, with minimal negative impacts for all people and goods.

- Objective 1:** Minimize vehicle miles and vehicle hours spent traveling.
- Objective 2:** Increase the occupancy rate for motorized modes.
- Objective 3:** Reduce barriers to the use of the transportation system, especially its non-motorized components, by facilitating pedestrian and bicycle access on public rights-of-way.
- Objective 4:** Improve bicycle access on public roads.
- Objective 5:** Increase the number of bus centers and commuter lots and improve their distribution and efficiency throughout the SEMCOG region.
- Objective 6:** Increase the contiguity among public transportation services and non-motorized transportation modes.
- Objective 7:** Implement travel demand management plans to reduce commuter traffic and congestion.
- Objective 8:** Increase mode choices and their coordination for the movement of people and goods.
- Objective 9:** Encourage the development of commuter rail services, particularly the Detroit/Ann Arbor/Lansing proposal, on the Norfolk Southern and Ann Arbor Railroads.

Goal B: Protect and enhance the natural environment and the human, residential and built environment.

- Objective 1:** Produce short-term and long-term reductions in air, water and noise pollution.
- Objective 2:** Produce long-term reductions in energy consumption and greenhouse gas emissions.

Objective 3: Reduce transportation support for urban sprawl, and reduce negative effects of the transportation system on Ann Arbor, including the impacts on:

- Agricultural, open space and recreational resources
- Households and neighborhoods
- Historic sites and districts
- Commercial and industrial facilities
- Wetlands and natural habitats

Objective 4: Preserve and enhance the aesthetic, natural and cultural qualities of the region, especially parks and open spaces.

Objective 5: Increase the use of public transportation and ridesharing.

Objective 6: Reduce the risks associated with the transportation of hazardous materials.

Objective 7: Encourage the development and use of non-motorized as well as less-polluting motorized facilities and programs.

Objective 8: Preserve and enhance the integrity of local neighborhoods, including greenspace, pedestrian walkways and playgrounds.

Goal C: To promote a safe and secure transportation system.

Objective 1: Reduce the number and severity of traffic crashes.

Objective 2: Increase the safety and security of the transportation system, both motorized and non-motorized, and its users.

Objective 3: Reduce conflicts between rail, auto, transit and non-motorized modes.

Objective 4: Ensure transportation corridors are friendly to non-motorized transportation.

Objective 5: Improve pedestrian and bicycle connections between commercial centers and surrounding neighborhoods, between local neighborhoods, and within business/commercial centers.

Objective 6: Improve accurate collecting and reporting of all transportation system conflicts.

Goal D: To Invest in transportation infrastructure in a manner consistent with other goals.

Objective 1: Give priority to preservation and maintenance of the existing road system, as opposed to constructing new roads and widening existing roads.

Objective 2: Develop a financially responsible plan for the allocation of available resources.

Objective 3: Encourage creative public and private partnerships in the transportation system.

Objective 4: Develop a cost-effective transportation system that improves the city's quality of life economically, socially, and environmentally.

Objective 5: Ensure that our transportation system does not prioritize non-residents over residents.

Objective 6: Improve public transportation and non-motorized facilities, including pedestrian access to public transportation.

Goal E: To promote cooperation between the City of Ann Arbor and other governmental entities, particularly the surrounding townships and municipalities and the University of Michigan, in a manner consistent with the other goals.

Objective 1: Encourage increased cooperation between the City of Ann Arbor and major employers to reduce commuter traffic and congestion.

Goal F: To ensure that meaningful public involvement will be a part of any transportation project in the Northeast Area.

Objective 1: Ensure that open-membership citizen advisory committees will be established for any transportation project within the Northeast Area having a budget cost of \$500,000 or more in 2002 dollars.

