

A Study of Factors that Inhibit and Enable Development of Sustainable Regional Transit Systems in Southeastern Michigan

Transit-Oriented Development (TOD) in Metro Detroit

One of seven final reports resulting from this project.



MNTRC Report 12-22



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REPORT 12-22

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TRANSIT-ORIENTED DEVELOPMENT (TOD) IN METRO DETROIT

One of seven final reports resulting from this project.

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March 2014

A publication of
**Mineta National Transit
Research Consortium**

College of Business
San José State University
San José, CA 95192-0219

TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No. CA-MNTRC-14-1136 RC-1599	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Transit-Oriented Development (TOD) in Metro Detroit		5. Report Date March 2014	
		6. Performing Organization Code	
7. Authors Utpal Dutta, Ph.D., PE		8. Performing Organization Report MNTRC Report 12-22	
9. Performing Organization Name and Address Mineta National Transit Research Consortium University of Detroit Mercy College of Business 4001 McNichols Rd., W San José State University Detroit, MI 48221 San José, CA 95192-0219		10. Work Unit No.	
		11. Contract or Grant No. DTRT12-G-UTC21 2010-0299	
12. Sponsoring Agency Name and Address U.S. Department of Transportation Michigan Department of Transportation Research & Innovative Technology Admin. Research Administration 1200 New Jersey Avenue, SE 8885 Ricks Rd. Washington, DC 20590 P.O. Box 30049 Lansing, MI 48909		13. Type of Report and Period Covered Final Report	
		14. Sponsoring Agency Code	
15. Supplemental Notes MDOT Project Manager: Sharon Edgar			
16. Abstract The term transit-oriented development (TOD) is being used increasingly in transit literature, particularly in studies related to planning and design of urban rail transit. TOD relates to the integration of diverse (but desirable) land uses with transit, both temporally and spatially, and is designed to increase transit ridership and promote desirable land uses surrounding station areas. Currently, there are a number of transit initiatives in the Metro Detroit region that, if implemented, may significantly change the transportation map of the southeast Michigan area. The purpose of this study is to examine the TOD characteristics of four peer cities and the Metro Detroit area and provide recommendations to help the Metro Detroit region implement successful TOD. The project team visited Atlanta, Denver, Cleveland and St. Louis to gain firsthand knowledge of their transit systems and TOD activities. The project team then developed a set of measures to integrate TOD into the planning and design of transportation facilities in the Detroit area. The goal of this study is to help maximize economic growth potential while improving the quality of life for local communities and users of Detroit-area transit. This study also identifies planning, economic, and institutional mechanisms for the effective implementation of TOD.			
17. Key Words Transit; Transit oriented development		18. Distribution Statement No restrictions. This document is available to the public through The National Technical Information Service, Springfield, VA 22161	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 50	22. Price \$15.00

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Library of Congress Catalog Card Number:
2014933456

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ACKNOWLEDGMENTS

This material is based upon work supported by the U.S. Department of Transportation's University Transportation Centers Program under Grant Number DTRT12-G-UTC21 and by a grant from the Michigan Department of Transportation.

The author is grateful for the help of Scott Douglas, Nashita Patel (graduate student researchers), and Dr. Leo Hanifin, Scott Anderson, Dr. Alan Hoback, Claudia Bernasconi and Lloyd Semple (faculty members), and Pat Martinco (staff).

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The authors also thank MTI staff, including Deputy Executive Director and Research Director Karen Philbrick, Ph.D.; Director of Communications and Technology Transfer Donna Maurillo; Research Support Manager Joseph Mercado; and Webmaster Frances Cherman. Additional editorial and publication support was provided by Editorial Associate Nancy Hannaford.

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EXECUTIVE SUMMARY

The term transit-oriented development (TOD) is being used increasingly in transit literature, particularly in studies related to planning and design of urban rail transit. TOD relates to the integration of diverse (but desirable) land uses with transit, both temporally and spatially, and is designed to increase transit ridership and to promote desirable land uses surrounding the station areas. The major benefits of TOD include reduced traffic congestion, improved mixed development, reduced household spending on transportation and others.

The primary objective of this project was to examine the TOD-related activities of peer cities along with the Metro Detroit area (if any) and recommend a number of measures to integrate TOD as a part of future transit development planning in Metro Detroit. The project team visited Atlanta, Denver, Cleveland and St. Louis to gain first-hand knowledge of their transit systems and TOD activities.

Based on the review of TOD-related activities/attributes of various cities, along with the peer cities, the project team developed a set of measures to integrate TOD with the planning and design of transportation facilities in the Metro Detroit area, to maximize the economic growth potential and improve the quality of life of the citizens of the local communities and the users of the transit facilities. This study also identified planning, economic, and institutional mechanisms for the effective design and implementation of TOD. These recommendations are specifically focused on the Metro Detroit area and are intended for the Regional Transportation Authority (RTA) of Southeast Michigan. However, they should also be applicable to other regions when planning and implementing new transportation systems. The recommendations for RTA include:

- Provide mobility for all people by means of a sustainable world-class transportation system.
- Use public-private partnerships (PPP) to fund TOD and walkable streets.
- Work closely with the Michigan Land Bank and accept assistance of Urban Land Institute.
- In areas of expected massive development (e.g., the former fairgrounds) partner with the developers to ensure transit friendliness attributes of the area.
- Pursue HUD and US DOT grants that support transit-oriented communities (TOCs).
- Recognize places of historical significance and use historical credits to aid development in partnership with developers.
- Provide GIS-based economic, demographic, land use, transit and walkability data for potential TOD developers to encourage and facilitate their planning and design.
- Work with cities along the primary transit corridors to develop consistent corridor-wide zoning and provide guidelines for best practices.

- Designate at least one transit station within each city along the transit corridor as that city's information center (maintained by the respective city). To assure consistency, provide system-wide station standards of design, visual quality, and maintenance.
- Consider Smart Street concepts for applicability when building transit routes.
- Consider planned BRT transit route endpoint stations for BRT-related TOD. Potential candidates include: Mexican Town, Masonic Temple, New Center, Pontiac, Shelby Township, and Roseville stations.
- Examine Dearborn's preliminary TOD plan of intermodal transit center for applicability area wide.
- Work closely with existing agencies, such as the Woodward Avenue Action Association (WA3) and Golden Spike to promote TOD concepts along the Woodward corridor and other transit corridors.

I. INTRODUCTION

The term transit-oriented development (TOD) is being used increasingly in transit literature, particularly in studies related to planning and design of urban rail transit. TOD relates to the integration of diverse but desirable land uses with transit, both temporally and spatially. They are designed to increase transit ridership and to promote desirable land uses surrounding station areas. A desirable feature of TOD is pedestrian orientation, as demonstrated in a number of recent studies. A TOD complex is typically centered on a transit station with gradually decreasing density contour lines, characterized by high density development in the center with progressively lower density development spreading outward from the center. One formal definition is:¹

Transit-Oriented Development (TOD) is typically defined as more compact development within easy walking distance of transit stations (typically half a mile) that contains a mix of uses such as housing, jobs, shops, restaurants and entertainment.

Although the above definition of TOD does not mention any specific transit mode, current development patterns in North America (USA and Canada) suggest that urban rail transit, particularly light-rail transit (LRT) is most conducive to TOD.²

THE RELATIONSHIP BETWEEN TOD AND TRANSIT

Over the last decade, there has been an increased interest by American and Canadian cities in constructing light rail transit (LRT) systems in metropolitan areas with the intent of improving mobility.³ Other factors that have driven the LRT trend include, but are not limited to:

- Reduced negative environmental impacts compared to standard buses (powered by fossil fuels).
- Ability to carry larger passenger volumes efficiently.
- Better service reliability than standard buses.
- Reduced dependence on foreign-sourced fossil fuels (i.e., crude oil).
- Ability to generate significant economic development.
- Less capital-intensive than rapid-rail transit (RRT) systems.
- Better societal image than standard buses.

A preliminary search indicated that there are:

- 29 cities in North America that have LRT systems in operation.⁴
- More than 20 cities under extension or under construction for LRT.⁵

- More than 35 cities where LRT systems are in various stages of system planning and design (including the Detroit metropolitan area).⁶
- Over 100 TOD projects currently exist in the United States, and the majority of them are located around heavy, light and commuter rail stations.⁷

The current literature indicates that many of the LRT programs are on their way to achieving their desired goals of generating higher passenger ridership than the existing bus service, fostering significant economic development, and reducing travel congestion, as observed in San Francisco Bay area, Arlington County, Virginia, Hillsboro, Oregon and others.⁸ One recent study found that a major economic advantage of TOD is a significant reduction in transportation costs for households located in or around TOD areas.⁹ The study shows that households with sufficient access to transit stations (i.e., considered to be within a five-minute walk of the transit station), spend about nine percent of their household income on transportation, while the corresponding figures of the average household and households in the suburbs in the United States are 19 percent and 25 percent, respectively. The recent increases in crude oil prices are likely to cause this gap to increase even further in the future.

Another study observed that TOD-type housing options in four metropolitan areas produced significantly less traffic than that generated by a comparable conventional development.¹⁰ At the national level, these savings are likely to result in less dependence on foreign oil. Lastly, recent experience with transit in different cities shows that for every dollar of investment in transit, there is an additional five to six dollars worth of economic development generated by TOD programs.¹¹

Thus, the major benefits of TOD can be summarized as:¹²

- Reduced traffic congestion, traffic hazards, and environmental pollution.
- Increased transit ridership due to the 4D attributes of TOD: density, diversity, design and distance to station.
- Potential for significant economic development in proximity to TOD.
- Reduced household spending on transportation, with a focus on lower-income households.
- Reduced dependence on non-renewable energy.
- Promoting of walkable communities and desirable land uses.
- Potential reduction of urban sprawl.
- Promoting of vibrant station centers, conducive to pedestrian travel.

There is no universally-accepted premise about what TOD should accomplish. However, a review of TOD experiences of other cities reveals that:¹³

- Neighborhoods near transit are more racially and socio-economically diverse than other neighborhoods.
- The growth of households within transit zones will be significant in the next 20 years.
- For every 100-foot decrease in distance between a home and the TOD, the average sale price of the home is increased by \$10,500.
- TOD creates a sense of community and a place where children can play and adults can grow old comfortably.
- In Portland, Oregon after implementation of TOD, the transit mode share of work trips increased from 31 to 46 percent, while non-work trips increased from 20 to 31 percent.¹⁴

Compared to other types of developments, environmental and community related benefits include:

- Land preservation.
- Reduced air pollution.
- Improved air quality.
- Improved quality of life for everyone.
- Less driving time, with potential to allow more time with family and friends.
- Improved accessibility.
- Improved health.
- Encourages walking and biking.
- Increased pedestrian safety.
- Slowed automobile traffic.
- Fewer automobile accidents.
- Increased “eyes on the street.”

Travel Impacts

People living in communities with high quality and well integrated transit (transit-oriented communities [TOC]) own fewer vehicles (0.93 per household versus 1.93 per household), drive half as many miles yearly, walk and bicycle four times more, and use transit 10 times

more (1.2 percent versus 11.5 percent) than residents of more automobile dependent communities.¹⁵ Table 1 displays this pattern in Portland, Oregon, based on land use type.

Table 1. Mode-Split Pattern of Transit-Oriented Communities in Portland, Oregon

Land Use Type	Auto Ownership per Household	Daily VMT per Capita	Mode Split (%)				
			Auto	Transit	Walk	Bike	Other
Good Transit/ Mixed Use	0.93	9.80	58.1	11.5	27.0	1.9	1.5
Good Transit Only	1.50	13.28	74.4	7.9	15.2	1.4	1.1
Remainder of Region	1.93	21.79	87.3	1.2	6.1	0.8	4.0

Source: Todd Litman, *Evaluating Public Transportation Health Benefits* (Victoria, B.C, Canada: Victoria Transport Policy Institute for the APTA, June, 2010).

TOD-FAVORABLE POLICIES

According to the Center for Transit-Oriented Development (CTOD), the policies shown in Table 2 support economic development located along a new transit corridor.¹⁶ These policies, if considered, should encourage TOD and TOD-favorable activities.

Table 2. Example of Economic Revitalization Policy

Policy	Impact
Local Hire Requirement	Makes transit construction beneficial for those who live along the corridor (contributes to local economy, generates community pride, engenders a sense of "ownership" of the project worked on).
Tax Breaks and Other Incentives	Encourage businesses to locate near transit stations.
Creation of Business Improvement District (BID) or Tax Increment Financing District (TIFD)	Assists to fund streetscape and other improvements.
Shared Parking	Preserve access to local businesses before, during and after construction.

Source: Reconnecting America's Center for Transit-Oriented Development (CTOD), *TOD 203: Transit Corridors and TOD; Connecting the Dots* [Guidebook] (October 2010, updated February 15, 2011), 19 (list) <http://ctod.org/pdfs/tod203.pdf> (accessed January 7, 2014).

FACTORS RELATED TO TOD

A number of factors must be considered while examining the TOD potentials of any site. They include, but are not limited to, existing land uses, demographics, employment distribution, zoning, walkability and density within a half-mile radius of a station. Compared to other attributes (demographics, land use and others) normally considered when evaluating potential TOD, walkability (as quantified by Walk Score®) and density factors are not as familiar attributes of a station's surrounding area. Thus they are described here for the sake of clarity.

Walk Score®

In order to quantify the walkability of a candidate site for TOD, Walk Score® (a tool developed with the intent of scoring geographic locations on their pedestrian-friendly attributes) is utilized in some cities.¹⁷ For example, Metropolitan Atlanta Regional Transit authority (MARTA) provides Walk Score® information next to each station to encourage TOD, but St. Louis and Denver do not provide such information. The algorithm used by its developers ranks addresses on an additive scale (see Table 3), ranging from 0 to 100 (representing descriptions of “Car-Dependent” to “Walker’s Paradise,” respectively). Using this approach, points are awarded to the address in question according to the number of destinations in its proximity, and their relative distance to them as well. Points of pedestrian attraction beyond one mile from the entity in question are not counted in the Walk Score.

Table 3. Walk Score® Thresholds

Score	Category Name	Walkability Description
90 - 100	Walker’s Paradise	Daily errands do not require a car.
70 - 89	Very Walkable	Most errands can be accomplished on foot.
50 - 69	Somewhat Walkable	Some amenities within walking distance.
25 - 49	Car-Dependent	A few amenities within walking distance.
0 - 24	Car-Dependent	Almost all errands require a car.

Source: Walk Score, “How It Works” (June 23, 2010), <http://www.walkscore.com/how-it-works.shtml> (accessed January 7, 2014).

Density

TOD-related development should be relatively dense and compact within the *core area* (normally defined as the area within a 0.5-mile radius). Density can be measured in the following ways:

- *Floor Area Ratio* (FAR): This is the ratio of the total built (floor-space) square footage on a site with respect to its land area. This is frequently used to measure density. For example, a site with land area of 100,000 square feet and 300,000 square feet of building floor space on it has a FAR value of 30.
- *Dwelling Units per Acre* (DUPA): As the name describes, this is the number of residences built in an acre’s area. TOD professionals use DUPA as a measure of density for their residential developments. For example, a single-family home on a 0.25-acre lot has a DUPA of four. However, an apartment complex (with multiple residences within a single building) in an urban setting can easily represent a DUPA of 75 or more.

According to MARTA TOD guidelines, the most recognizable measure of density and scale is height.¹⁸ However, height and density do not always translate the same way all the time. For example, a taller building with more open green space at the ground level and a

shorter building with less open green space could have the same FAR or DUPA. Accepted density guidelines are presented in Table 4.

Table 4. TOD Residential Density Guidelines, by Station Type, MARTA 2010

Station Type	FAR	DUPA	Height (floors)
Urban Core	8.0-30.0	75+	8-40
Town Center or Commuter Town Center	3.0-10.0	25-75	4-15
Neighborhood	1.5-5.0	15-50	2-8
Arterial Corridor	1.0-6.0	15-50	2-10

Source: Metropolitan Atlanta Rapid Transit Authority (MARTA), "Chapter 5: A Model TOD Zoning Overlay," in *MARTA: Transit-Oriented Development Guidelines* (Atlanta, GA: MARTA, November 2010) http://www.itsmarta.com/uploadedFiles/About_MARTA/Planning_and_Projects/TOD_and_Real_Estate/Chapter%205-A%20Model%20TOD%20Zoning%20Overlay.pdf (accessed January 7, 2014).

Notes: FAR: Floor Area Ratio
DUPA: Dwelling Units per Acre

II. RECOMMENDED APPROACH FOR IDENTIFYING TOD LOCATIONS

The process of identifying transit-oriented development (TOD) packages at any selected site requires detailed analyses of the existing conditions (e.g., population, land ownership) and the possible barriers that may inhibit TOD implementation (e.g., zoning definitions and classifications).

DEVELOPMENT INVENTORY

In order to develop a TOD package at any site, it is first necessary to assess the type of existing development within some pre-defined influence boundary. For TOD projects, that pre-defined boundary should be established as no greater than a 1.0-mile walking distance (to capture the upper boundary of comfortable walking distance for transit riders and TOD residents), and the types of development that may be of interest include, but are not limited to, the following:

- Residential (e.g., for-sale, rental, senior, low-income)
- Retail/Service/Commercial (e.g., eateries, apparel store, drugstore, grocery)
- Public/Civic/Institutional (e.g., parks, pedestrian plazas/common areas, schools, churches, hospitals)

These data enable developers to determine what type of new businesses to include among the existing development to allow for growth and expansion.

POPULATION CHARACTERISTICS

Along with noting the existing developments in a TOD area, the characteristics of the surrounding area's population must be analyzed when considering development or redevelopment. Developments that cater to the needs of this local population, while attracting new population would be considered highly desirable. For example, if part of the population in a TOD area consists of people of a certain demographic (elderly or low-income, for example), one may consider including businesses that not only accommodate their interests and needs, but also those that are likely to attract new people (visitors as well as residents).

According to Reconnecting America (CTOD), gentrification is an issue.¹⁹ However, cities, states and the United States Department of Housing and Urban Development (HUD) are taking the necessary steps to reduce the chances of gentrification by: 1) imposing rent control, 2) requiring a certain percentage of rental units to be affordable, and 3) providing a tax incentive to developers. It must be noted that there are 255,636 privately owned HUD-subsidized units within a 0.5-mile radius of existing or proposed rail stations in 20 regions (including New York, Boston, Houston, and San Francisco).²⁰

LAND OWNERSHIP

Available land may have to be transferred from an existing owner to a developer in order for development to occur. Rather than owning several parcels of land scattered throughout an area, a developer may wish to assemble adjacent parcels of land into larger blocks to facilitate desirable development patterns.

The condition of the local real estate market has significant impact on the success of TOD. Denver Regional Transportation District (RTD) uses a very successful land-banking approach with the assistance of the Urban Land Institute (ULI).

ZONING

Zoning is a primary determinant to the types of land uses permissible under local ordinances and may be a major issue when dealing with any type of development/redevelopment project. With the TOD goal in mind, zoning definitions/classifications may have to be adjusted to allow for a specific type of building/project. The feasibility of such zoning changes under the current city ordinances must be carefully assessed.

FUNDING

A key factor in the successful implementation of any TOD program is the availability of funding. Funding can come from various sources, such as grants, special tax provisions, incentives, private donations, etc. Amidst all the planning barriers, funding may be the last hurdle to be cleared before project groundbreaking takes place.

BARRIERS TO IMPLEMENTATION

Although there are many factors in each of the studied TOD sites that are believed to ease the implementation process (e.g., high transit ridership, existing vibrant community, proximity to frequently-traveled travel corridors), there may also be underlying factors that could inhibit TOD implementation as well. Examples of such inhibiting factors include:

- Assembly of disaggregate and scattered land parcels (properties may be difficult to purchase or obtain).
- Costs of infrastructure improvements (e.g., sidewalk/curb construction, storm water drainage, pedestrian and vehicular traffic signals, street lighting).
- Vehicular and pedestrian traffic issues (e.g., capacity, safety, operations).
- Financing challenges (e.g., sources of funding, community support for funding).
- Lack of coordination among TOD stakeholders (e.g., public versus private organizations; local/state/federal governments, private property owners).
- Market conditions (lack of demand for new developments).

III. MECHANISMS DEPLOYED TO IMPLEMENT TOD

GENERAL MECHANISMS

The implementation of any new program (e.g., TOD, joint development, etc.) is often hindered by different barriers. In order to overcome these barriers, it may be necessary to deploy a different set of mechanisms or techniques. TOD stakeholders may execute the development mechanisms described below. This includes a broad range of groups and organizations, including, but not limited to: local governments (e.g., planners, city council, and public works), federal/state/regional governments (e.g., FHWA, HUD, MDOT, and SEMCOG), private developers, transit providers/agencies, and financial institutions. The deployment of these mechanisms requires significant intergovernmental cooperation at different levels. Mechanisms may be classified into three categories:

- *Planning*: This relates to strategies that may be used to change zoning definitions or master plans for communities to facilitate the implementation of TOD programs. Examples include creating overlay zoning districts, benefit assessment districts, empowerment zones, and rezoning properties.
- *Institutional*: This relates to strategies involving a planned arrangement for the coordination of efforts and use of resources among different TOD stakeholders. Examples of this mechanism include the creation of project-specific planning commissions (i.e., TOD-focus), joint-development programs, municipal powers, development rights, and court rulings.
- *Economic*: This relates to strategies that may be used by TOD stakeholders to overcome economic barriers through a commitment of public monetary resources. Examples include property leasing, public-private partnerships (PPP), tax increment financing districts (TIFDs), land banking, alternative sources of funding, land acquisition, and grants (local, state, or federal).

Metro Detroit has many examples where such mechanisms have been utilized for the execution of development projects. Mechanisms that may be used for the implementation of TOD projects in the state of Michigan, the Southeast Michigan Council of Governments (SEMCOG) region, or counties and local governments are listed in Table 5.²¹

Table 5. Mechanisms Used to Implement TOD: General

Jurisdiction		Agency	Program	Applications	Financing (Type)
1	Federal	FHWA / FTA	Metropolitan & Statewide Planning Formula Grant	Regional planning, decision-making.	Grants (Formula)
2			Transportation Planning Capacity Building Program	Land use and scenario planning, TOD, non-motorized transportation, safety.	
3		FTA	Urbanized Areas Formula Grant Program (Transit agencies in urbanized areas population of 200,000+)	Planning, engineering design, and evaluation of transit projects; 1%+ of funds used for historic preservation, landscaping, public art, pedestrian access, disabilities access.	
4			Bus & Bus Facilities Discretionary Grant Program (Transit agencies in urbanized areas population of 200,000+)	New and replacement buses, equipment, facilities, intermodal transit centers.	Grants (Competitive)
5		FHWA	Transportation Enhancement (TE) Program	Expand transportation mode choices, safety programs, historic preservation, environmental mitigation, scenic beautification.	Grants (Formula)
6			Congestion Mitigation and Air Quality (CMAQ) Program	Reduce pollution, improve transportation system efficiency, non-motorized transportation facilities, travel demand management.	General fund
7		EPA	Smart Growth Implementation Assistance (SGIA) Program	Technical assistance for resolving transportation and parking issues, affordable housing, storm water management, infill and redevelopment.	Competitive
8		EDA	Economic Development Program	Aid in financing economic development.	Grants, loans
9	State of Michigan		Economic Development Planning	Provide assistance to public agencies for economic development planning.	Grants
10		MEDC	Economic Development Corporations (PA 338 of 1974)	Plan/acquire/prepare sites, loan guarantees, equip facilities for private enterprise.	Grants, bonds, operation revenues
11		DDA	Downtown Development Authorities (PA 197 of 1975)	Devise and maintain plans, acquire/hold/develop property, enter PPP, operation of projects.	Grants, bonds, operation revenues, TIF, tax proceeds
12		MTA	Metropolitan Transit Authority (PA 204 of 1967)	Plan/acquire/operate transit and related facilities; utilize eminent domain for land needs.	

Source: State of Michigan Public Acts 338, 195, and 204, <http://www.legislature.mi.gov/.../documents/mcl/.../mcl-act-338-of-1974.pdf>, <http://www.legislature.mi.gov/.../documents/mcl-act-197-of-1975.pdf>, <http://www.legislature.mi.gov/.../documents/mcl/.../mcl-act-204-of-1967> (accessed Jan. 20, 2014).

IV. EXPERIENCE OF TOD IN COMPARABLE CITIES

The project team visited the four cities of Atlanta, Cleveland, St-Louis and Denver to discuss their transit-oriented development (TOD) related experiences.²² Although some of the information presented here could have been obtained even without visiting those cities, visits and face-to-face discussions with agency professionals exposed the project team to a number of unique features that made these visits worthwhile. Some of these are:

- Branding of the HealthLine in Cleveland and its impact on TOD.
- Leadership style of the Cleveland Regional Transit Authority (RTA) CEO.
- Land banking activities of the Denver Regional Transit District (RTD).
- Activities of Metropolitan Atlanta Regional Transit Authority (MARTA), without CEO.
- Impact of TOD-related investments on adjacent neighborhoods and school districts.

The findings of the team's visits are summarized below.

ATLANTA

Metropolitan Atlanta Regional Transit Authority (MARTA) carries more than 500,000 riders every day.²³ In addition to MARTA, other agencies, namely Georgia Regional Transit Authority (GRTA), Cobb Community Transit and Gwinnett County Transit provide express bus service. More than \$4 billion has been invested along MARTA's corridor as a part of TOD.

It is to be noted that MARTA contributes \$476 million per year to Atlanta's gross regional product.²⁴ In order to encourage TOD within the vicinity of transit stations, land use, demographic, zoning, Walk Score®, density, and other information are available for more than 30 stations. Regional transit agencies along with metropolitan planning organizations have played a key role in planning and implementing TOD by providing funds. In the case of MARTA, this effort is shown in Table 6.²⁵

Table 6. Source of TOD-Related Grants, Loans, Tax Credits and Other Financial Incentives

Funding Authority	Grant Type	Description
Livable Centers Initiative, Atlanta Regional Commission	Planning	Planning grants that encourage local jurisdictions to plan and implement strategies that link transportation improvements with land use development strategies to create sustainable, livable communities consistent with regional development policies. Funded with federal STP dollars at ~\$5M annually.

Funding Authority	Grant Type	Description
Beltline Affordable Housing Trust Fund, Atlanta Development Authority	Implementation/ Property Acquisition	Grants available for private developers and Community Housing Development Organizations to create and preserve affordable housing within the Atlanta BeltLine Tax Allocation District (a future 22-mile transit loop). Program funded with \$8.3 million of general funds from the City as well as a set-aside of beltline tax increment revenues. Projects receive up to \$2.5 million per multi-family development or \$750,000 per single-family development.

Source: Metropolitan Atlanta Rapid Transit Authority (MARTA), *MARTA: Transit-Oriented Development Guidelines* (Atlanta, GA: MARTA, November 2010) (accessed January 7, 2014).

CLEVELAND

The Cleveland RTA serves 1.28 million residents of 39 cities and townships. Since 2006, a significant amount of development has taken place along its transit corridor.²⁶

A major highlight of the Cleveland system is the development along the HealthLine, a bus rapid transit (BRT) line. Unlike other cities, readymade information surrounding any transit stop is not available.

The world renowned Cleveland Clinic and University Hospital has sponsored the BRT line along historic Euclid Avenue and branded it as the HealthLine. The Cleveland RTA, in conjunction with the City and local business, was able to attract market rate and affordable housing developments. By 2010, more than \$4.3 billion had been invested along the HealthLine corridor.²⁷ However, TOD along other corridors namely along light rail transit (LRT) and bus lines is not significant. In discussions with agency professionals, it was reported that the financial benefits have not permeated the immediately adjacent neighborhoods, or the adjacent school district.

DENVER

The Regional Transportation District (RTD) of Denver provides bus and LRT services today, but as a part of their FasTracks initiative, light/commuter rail and BRT will be added within the next few years. The system presently carries more than 300,000 riders on any given day.²⁸ RTD uses a set of eight factors in planning and implementing TOD. RTD has been a model of innovative engagement and collaboration to forward TOD implementation. For example, along the west corridor, the cities of Denver and Lakewood and their housing departments formed a joint venture to do a corridor-wide implementation plan focusing on equitable development.

RTD takes an active role in locating stations and park-and-ride lots to support TOD. For example, a private development group invited RTD to move a station onto its property to facilitate TOD.

RTD's Land Bank is a very successful venture. It has sold five parcels of land next to Union Station for \$30 million and is planning to invest in TOD.²⁹

FasTracks provides long-term funding for TOD-related activities, which is a unique practice. Various agencies and metropolitan planning organizations have played a key role in planning and implementing TOD in Denver by providing funds as shown in Table 7.

Table 7. Regional and Transit Agencies that Provide Grants, Loans, Tax Credits or Direct Financial Incentives to TOD, Denver

Authority	Grant Type	Description
Station Area & Urban Center Planning Funds, Denver Regional Council of Governments	Planning	Station Area/Urban Center Planning grants assist local governments in developing plans for existing and future transit station areas and designated urban centers that further the region's goals and meet the needs of local communities. Program funded at \$3.5 million over 4 years.
Denver Metro Mayors Caucus TOD Fund, CO Housing and Finance Authority	Implementation	Seven cities that are part of the regional Mayors Caucus pooled their Private Activity Bond authority to finance the construction or rehabilitation of multi-family rental projects near existing or planned transit. Money cannot be used to purchase or hold land. Projects must meet criteria related to size, affordability and transit accessibility; gain access to lower debt financing costs and to Low Income Housing Tax Credits. The fund has \$65 million.
TOD Acquisition Fund, Urban Land Conservancy, Enterprise Community Partners, City and County of Denver, Several other investors	Property Acquisition	Acquires properties in current and future transit corridors, with the goal of creating and preserving up to 1,200 affordable housing units. The fund is capitalized at \$15 million, with an eventual goal of \$25 million in total loan capital. The fund will purchase and hold sites for up to five years along transit corridors.

Source: Hanifin et al., *Study of Factors that Enable and Inhibit Effective Regional Transit in SE Michigan: Phase I, II, and III* (Detroit, MI: Mineta National Transit Research Consortium, 2013).

ST. LOUIS

St. Louis Metro (Bi-State) provides both bus and LRT services along with some paratransit service. More than 54,000 daily³⁰ riders use this system. St. Louis Metro earns the most revenue per rider in comparison to other visited transit systems. Since the inception of the transit system, more than \$2 billion have been invested in TOD.³¹

They developed the most comprehensive database for 37 existing MetroLink LRT stations. These data (Figure 1) include demographic, land use, zoning and other related information within the 0.25- to 0.5-mile radius of selected LRT stations. However, unlike MARTA, St. Louis does not provide walkability (Walk Score®) or density (floor area ratio [FAR]) related information. Otherwise, the MetroLink information can be used to determine the potential for TOD around each of the 37 LRT stations.

Housing			Housing			Transportation	
Housing Units			Owner-occupied housing values			Vehicle Availability	
Total units	2,299		< \$100,000	35	3.1%	Zero-vehicle households	0%
Density (DUs/acre)	0.1		\$100,000-199,999	382	33.4%	Owner-occupied	0%
Occupied	2,218	96.5%	\$200,000-299,999	312	27.3%	Renter-occupied	0%
Owner-occupied	1,143	51.5%	\$300,000-499,999	333	29.1%	Workers*	3,254
Renter-occupied	1,075	48.5%	\$500,000+	81	7.1%		
Vacant	81	3.5%					
			Rental prices			Means of commute*	
Housing Age			No cash rent	351	32.7%	Drives alone (SOV)	81.7%
Pre-1940s	114	5.0%	\$0-100	0	0%	Carpool	10.0%
1940s-1990s	1,213	52.8%	\$100-499	60	8.3%	Transit	1.8%
2000s	972	42.3%	\$500-749	93	12.8%	Motorcycle	0%
Source: 2005-2009 American Community Survey, US Census Bureau			\$750-999	359	49.6%	Walk	1.3%
			\$1000-1499	204	28.2%	Other	1.3%
			\$1500+	8	1.1%	Work at Home	3.8%
**Workers* refers to persons age 16 or over who self-identified as being employed.							

Figure 1. Transportation and Housing Information around a LRT Station in St. Louis

Source: Citizens for Modern Transit-St. Louis, <http://www.cmt-stl.org/wp-content/uploads/2011> (accessed January 14, 2014).

V. TRANSIT IN METROPOLITAN DETROIT, MICHIGAN

The Southeast Michigan Council of Governments (SEMCOG) is the metropolitan planning organization (MPO) designated for the southeast Michigan region encompassing seven counties: St. Clair, Macomb, Wayne, Oakland, Livingston, Washtenaw, and Monroe).³² The current population of the southeast Michigan area is more than four million, placing it among the top five most populous regions in the country.

Long-term predictions conducted in early 2012 indicated that overall population growth will be 0.8 percent, while household will grow by 6 percent, but jobs will grow by 12 percent over the next 30 years 2010-2040.³³

In 2010, approximately 143,358 households in the SEMCOG region have been identified as households without access to a private automobile.³⁴ Despite this figure, the modal split for transit in the region is very low: only 2.0 percent of people commuting to their place of employment do so using public transit (mostly captive riders). In contrast, 94 percent of commuters travel to work by car, van, or light truck.³⁵ Thus, Metro Detroit area cannot be designated as a transit-oriented community (TOC).

Regions with similar population bases in the United States and Canada (e.g., Washington, D.C.; San Francisco, CA; Boston, MA; and Toronto, Canada) have successfully created and maintained a transit base by attracting choice riders, thereby significantly reducing congestion levels, environmental pollution, and dependence on fossil fuels.³⁶ The common ingredient among these cities is some type of rail-based travel mode, either LRT or rolling rapid transit (RRT).

Choice riders are those commuters who choose to travel by way of public transit, despite the fact that they own at least one private automobile. Very little emphasis, if any, has been placed by policy makers in this region to attract these riders (until now, by creating the Southeast Michigan Regional Transit Authority in 2013). This is evident from the fact that, while the region ranks fifth in population in the country, it ranks 23rd, both in the number of miles and hours of transit services provided.³⁷ Furthermore, the region ranks 21st in the amount of local dollars spent on transit. However, this trend will most likely change due to the creation of the RTA.

HISTORICAL PERSPECTIVE

As stated in the SEMCOG report, many regions in the United States spend more than three times as much, per capita, for transit services than does Metro Detroit area: Detroit: \$75.00, Cleveland: \$180.00, Atlanta: \$190.00, San Francisco: \$490.00 (see Figure 2).³⁸ The contribution of farebox income towards the operating cost in these cited regions are at 19 percent, 21 percent, 28 percent, and 38 percent, respectively. It is to be noted that nation's largest transit agency, New York, is at 56 percent in this context.³⁹ Also, local government funding varies widely, with the highest being Cleveland (73 percent) and lowest being Detroit (32 percent).⁴⁰ Other factors that have limited the availability of transit activities in the region (until recent legislative action establishing the Southeast Michigan RTA) include: the lack of consensus about the structure, governance and funding of a

regional transit system, and lack of support among the public-at-large for a viable transit funding base.

This situation is exemplified by a number of missed opportunities experienced in obtaining transit resources. For instance, the bulk of a \$600 million commitment made by the federal government in 1974 was “lost” because of a general lack of consensus on the programming and planning aspects for a transit system.⁴¹ Similarly, the first regional transit agency in the Metro Detroit area, Southeast Michigan Transportation Authority (SEMTA), was created in the early 1970s without a dedicated local transit support base (unlike other metropolitan regions in the country), thereby limiting the region’s ability to compete for federal grants.⁴²

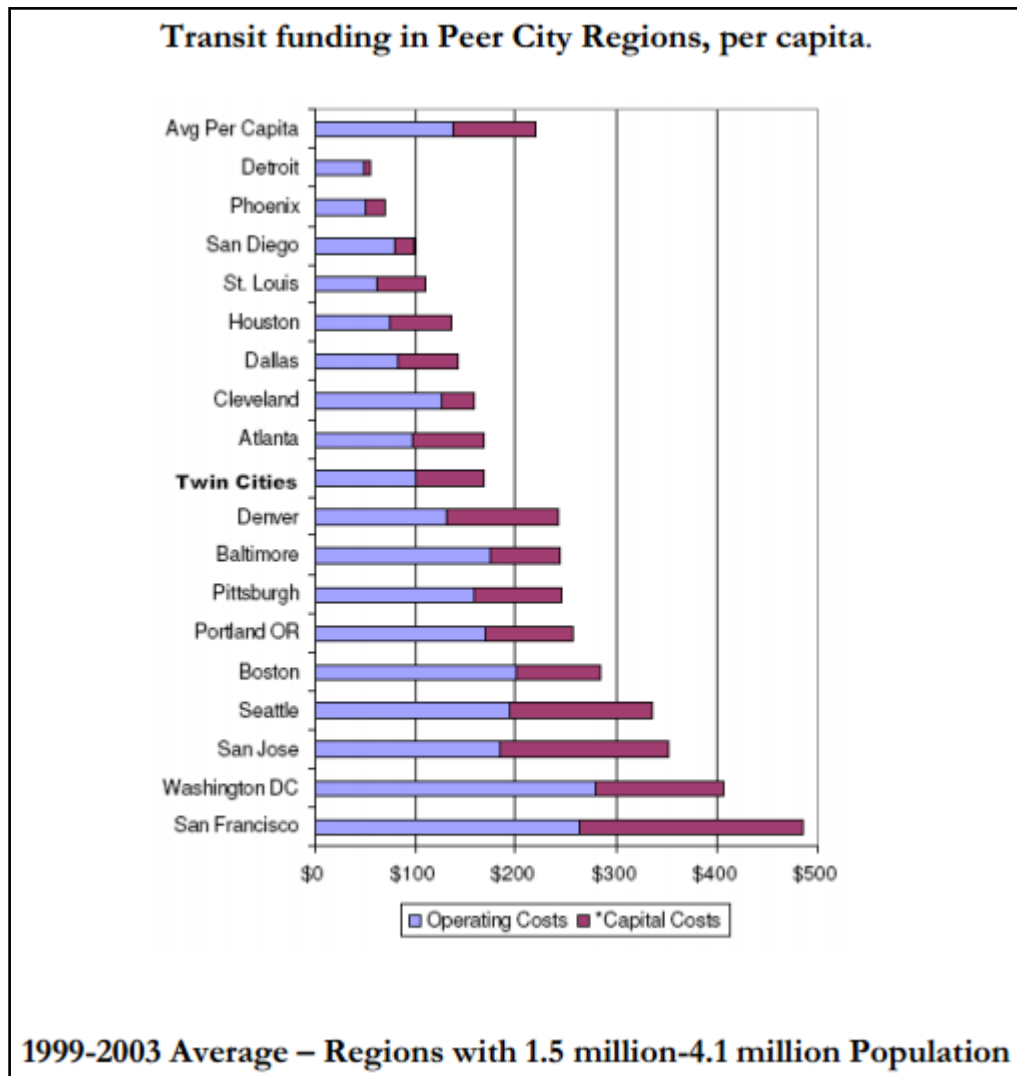


Figure 2. Selected United States Metropolitan Regions: Per Capita Transit Spending

Source: Environmental Council, <http://www.environmentalcouncil.org/mecReports/TransitVision2008.pdf> (accessed January 16, 2014).

Lastly, no transit allocations were made out of increased gasoline tax revenues in the state, resulting from 1997 legislation, despite the fact that up to 10 percent of these funds could have been dedicated for transit.

Transit services are currently provided by three major agencies in the Metro Detroit:

- *Detroit Department of Transportation* (DDOT): Provides service within the city limits of Detroit, Hamtramck, and Highland Park.
- *Suburban Mobility Authority for Regional Transportation* (SMART): Provides service for the greater Metro Detroit area, with limited service within the Detroit city limits (including the cities Hamtramck and Highland Park).
- *Detroit Transportation Corporation* (DTC): Operates the People Mover system.

DDOT and SMART provide bus route service for over 100,000 transit miles per operating day, generating a daily ridership of over 160,000.⁴³ A number of other transit services are available in the SEMCOG area for their respective local communities:

- *Ann Arbor Transportation Authority* (AATA): Provides service for the city of Ann Arbor.
- *Blue Water Area Transportation Commission* (BWATC): Provides service for the city of Port Huron.
- *Lake Erie Transit* (LET): service for the city of Monroe and for Monroe County.

Additionally, the M-1 Rail organization is a non-profit public-private partnership of Detroit area business and civic leaders that intends to plan, construct and operate a LRT system within the central business district of Detroit to stimulate economic development by late 2015.⁴⁴

VI. VARIOUS CHARACTERISTICS OF DETROIT AND COMPARABLE CITIES

Information related to population, median income, mean travel time, and land area of various cities including Detroit is presented in Table 8. Based on the 2010 census, population density of the city of Detroit is close to Cleveland, Pittsburg and St. Louis, and much higher than Atlanta, Denver and Charlotte. Thus, designating Detroit as a city of vacant land is a myth, as there is no truth in such designation, and the city has great potential for quality transit and transit-oriented development (TOD).⁴⁵

EXISTENCE OF TOD IN DETROIT

Woodward Avenue Action Association (WA3) is a very active TOD advocacy group in the state of Michigan.⁴⁶ The objective of this economic- and community-based organization is to shape the future of the 27 miles along Woodward Avenue, from downtown Detroit to Pontiac, by promoting TOD. The master plan of each of the cities along Woodward corridor, starting with the city of Ferndale and extending to Birmingham, contains TOD elements. Lists of WA3's TOD-friendly partners are included in Table 9.

There are a number of establishments in Detroit, especially along the Woodward Avenue, that have all the attributes of TOD other than being very close to reliable transit service route. Examples of these establishments within and around the city of Detroit are presented in Figure 3 and Figure 4.⁴⁷ However, transit service next to these facilities is not very dependable. Proximity, distance to a station (with a reliable service), being one of the desirable attributes of TOD.

WA3 developed a number of tools for communities along Woodward Avenue to facilitate their TOD activities. In this regard, they identify a number of steps to be taken in order to implement TOD Figure 5.⁴⁸ As shown in Figure 5, integration of reliable transportation system with the existing and planned developments is the essence of transit-oriented development.

According to SEMCOG, by the year 2030, about 33 percent of the region's population will be over 55 years old, thus plans should be undertaken to create livable communities for them. TOD can play a significant role in this context.⁴⁹

Table 8. Attributes of Detroit and Other, Similar Cities, 2010

	City									
	Atlanta	Cleveland	Detroit	Miami	Pittsburgh	St. Louis	Baltimore	Denver	Charlotte	Chicago
Population	420,003	396,815	713,777	399,457	305,704	319,294	620,961	600,158	731,424	1,695,598
Land Area, in Square Miles	133.15	77.7	138.75	35.87	55.37	61.91	80.94	153	297.68	227.63
Persons per Square Mile	3.15	5.10	5.14	11.13	5.52	1.15	7.67	3.92	2.45	11.84
Median Household Income	\$45,171	\$27,349	\$28,357	\$29,621	\$36,019	\$33,652	\$39,386	\$45,501	\$52,446	\$46,877
Mean Travel Time to Work, in Minutes	25.8	24	26.2	27.3	22.7	24.4	29.2	24.6	24.3	33.6

Sources: Collected from Census 2010, U.S. Census Bureau, <http://www.census.gov> (accessed December 1, 2012).

Table 9. WA3 Partner Cities and Agencies

Municipal Partners	Private Partners	Agency Partners
<ul style="list-style-type: none"> • City of Berkley • City of Birmingham • City of Ferndale • City of Huntington Woods • City of Royal Oak 	<ul style="list-style-type: none"> • Beaumont Health System • Detroit Zoological Society 	<ul style="list-style-type: none"> • Michigan Suburbs Alliance • Michigan Department of Transportation (MDOT) • Suburban Mobility Authority for Regional Transit (SMART) • Southeast Michigan Council of Governments (SEMCOG)

Source: LSL Planning, *Transit-Oriented Development Corridor: Study for South Oakland County* [Report on WA3 TOD partners] (Michigan: LSL Planning, January 2012).



**Figure 3. Example 1 of 2: Mixed-Use Development in Detroit
(Suitable for future TOD)**

Source: Woodward Avenue Action Association, *Planning for Growth in the Cities along Woodward Avenue: The Benefits of Mixed-Use and Transit Oriented Development in Your Community* ([Presentation], November 9, 2007), 5; http://www.woodwardavenue.org/uploaded_pics/pdf/pdf-20091019163626.pdf, 32 (accessed December 23, 2013).

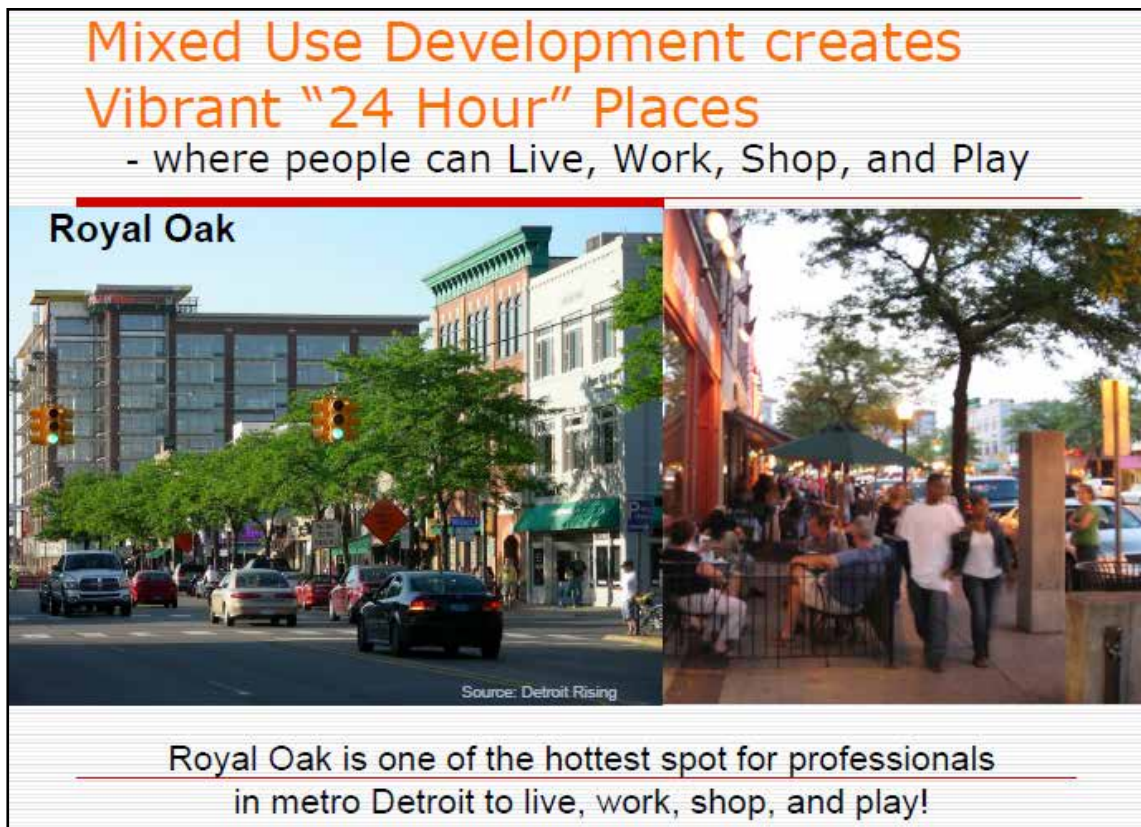


Figure 4. Example 2 of 2: Mixed-Use Development in Detroit (Suitable for future TOD)

Source: Woodward Avenue Action Association, *Planning for Growth in the Cities along Woodward Avenue: The Benefits of Mixed-Use and Transit Oriented Development in Your Community* ([Presentation], November 9, 2007), 21; http://www.woodwardavenue.org/uploaded_pics/pdf/pdf-20091019163626.pdf, 32 (accessed December 23, 2013).

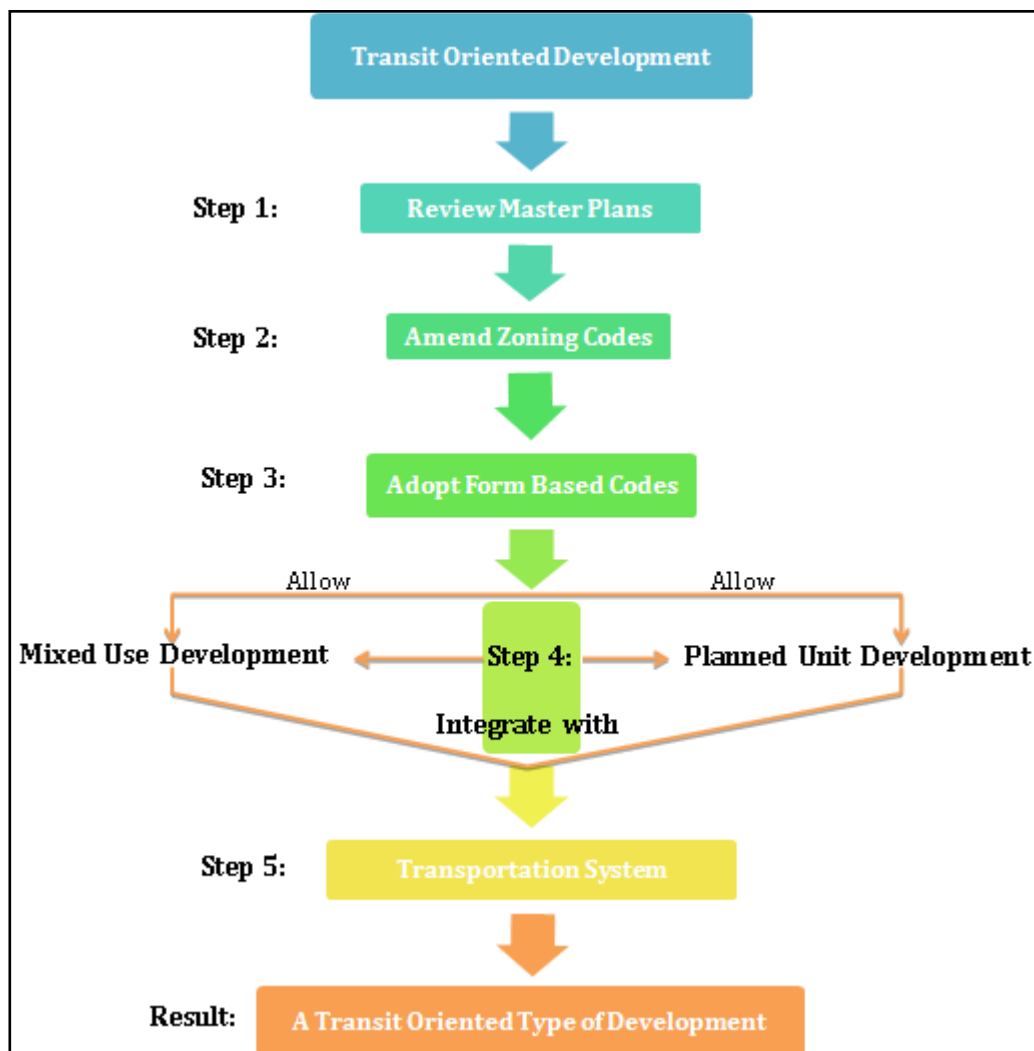


Figure 5. Steps to Implement TOD along the Woodward Corridor

Source: Adapted from: Woodward Avenue Action Association, *Planning for Growth in the Cities along Woodward Avenue: The Benefits of Mixed-Use and Transit Oriented Development in Your Community* ([Presentation], November 9, 2007), 32; http://www.woodwardavenue.org/uploaded_pics/pdf/pdf-20091019163626.pdf, 32 (accessed December 23, 2013).

Michigan's Golden Spike is another TOD interest group focused on Southeast Michigan's key transportation corridors.⁵⁰ It is a collaborative effort among the Michigan Suburbs Alliance, Michigan Environmental Council and Tourism and Economic Development Council. Golden Spike is funded by a grant from the People and Land program of the W.K. Kellogg Foundation. Golden Spike has published the document *Using Transit-Oriented Development to Create Economic Vibrancy in Neighborhoods: A Guide for Elected and Appointed Officials in Michigan* to assist communities in implementing TOD. Recently, the Michigan Land Bank⁵¹ has been very active in developing public-private partnerships. It is to be noted that the mission of the Michigan Land Bank is to:⁵²

promote economic growth in this state through the acquisition, assembly and disposal of public property, including tax reverted property, in a coordinated manner to foster the development of that property, and to promote and support land bank operations at the county and local levels.

The Michigan Land Bank is in the process of signing an agreement with Magic Plus LLC (a land developer) to develop the former Michigan state fairgrounds. As part of their development plan, a transit station is included.

The City of Dearborn has developed a comprehensive TOD around their planned intermodal transit station. A sketch depicting the proposed transit station is presented in Figure 6.



Figure 6. Preliminary TOD Plan around Dearborn Intermodal Transit Center

Source: City of Dearborn, "City of Dearborn's Intermodal passenger Rail Station" (no date), <http://www.cityofdearborn.org/images/stories/dearborn%20intermodal%20transportation%20station.swf> (accessed January 14, 2014).

VII. POTENTIAL TOD-RELATED FUNDING SOURCE IN DETROIT

Any location along the transit corridor within jurisdiction of the state of Michigan, the SEMCOG region, and the city governments is eligible for varying degrees of development incentives. For instance, although the city of Detroit has experienced a decrease in population over the past three decades, the city government and the Detroit Economic Growth Corporation (DEGC) have established well-defined mechanisms to promote developments expected to improve the quality of life for the remaining population. Programs intended to attract nationally-recognized casual dining restaurants and grocery stores are likely to be of particular interest in this context. Such programs are examples of local support for new development.

At the other end of the scale of funding levels, the current federal administration has expressed a strong desire to incorporate smart growth, sustainability, and livability into new developments in the nation's communities. Federal monies are largely available through a competitive process, rewarding the most suitable projects with grants. The marriage of local incentives, at the low end, federal incentives, at the high end, and state and regional programs, somewhere in between, may be highly attractive to stakeholders wishing to pursue development projects.

The City of Detroit utilizes a number of organizations and authorities in planning development intended to improve economic growth and quality of life for its citizens. The DEGC is a private, non-profit organization that provides the city a number of services, with the intent of creating new investments and employment: project management, financial assistance, planning, and development assistance. The 35 members of the DEGC collectively serve as the authority governing other organizations, all of which are intended to boost economic activity within the city of Detroit. The affiliated organizations are listed below:⁵³

- *Downtown Development Authority (DDA)*: The DDA was created in 1976 with the intent of promoting economic growth, focused in the downtown district of the city of Detroit. This area contains approximately two square miles of land area, and is bounded by: John C. Lodge Freeway (M-10) to the west, Fisher Freeway (I-75) to the north, Chrysler Freeway (I-375) to the east, and the Detroit River to the south.
- *Detroit Brownfield Redevelopment Authority (DBRA)*: Provides incentives for the city of Detroit to pursue redevelopment and revitalization efforts in areas in need (e.g., environmentally contaminated, blighted, abandoned, or underutilized). The authority is governed by a nine-member board of directors.
- *Economic Development Corporation (EDC)*: This is a component of both the City of Detroit and the DEGC. Some of the long-term activities involving the EDC include making loans payable to the City of Detroit utilizing U.S. Housing and Urban Development (HUD) grants, and designating land parcels for tax benefits and incentives.
- *Neighborhood Development Corporation (NDC)*: Established as a subsidiary corporation by the EDC, housing and neighborhood programs within qualified

blighted or redevelopment areas can be implemented by the NDC. The NDC can implement a program to acquire property, construct improvements, and rehabilitate or construct houses for immediate sale, as long as it is in accordance with a City Council-approved project plan.

- *Local Development Finance Authority (LDFA)*: A component of the City of Detroit and the DEGC, the LDFA was created in October 1988. The objectives of the authority are the collection of taxes from within tax increment districts to pay debt service used to complete development projects and establish additional tax increment districts within the city limits (e.g., East Riverfront Conservancy, Jefferson Ave. Chrysler Corporation assembly plant).
- *Tax Incentive Finance Authority (TIFA)*: This branch was established in 1982 under PA 450 of 1980. Funding for TIFA comes from tax increments captured as a result of new growth. Spending of funds must be in accordance with a City Council-approved plan.

The City of Detroit has the benefit of a well-defined hierarchy of planning organizations and departments. Throughout the city, there are a number of completed developments that exemplify the full potential of PPPs. For instance, Joe Louis Arena (home to the Detroit Red Wings of the National Hockey League (NHL)) and Cobo Hall were constructed through the use of well-executed PPPs.

MECHANISMS FOR EFFECTIVE IMPLEMENTATION SPECIFIC TO THE CITY OF DETROIT

There are various mechanisms available to stakeholders pursuing development within the Detroit city limits. As mentioned earlier, there are a number of organizations that operate within the city that are empowered to execute these mechanisms in cooperation with the City.

Institutional mechanisms, including joint development (JD), were used for the planning and construction of Cobo Hall, a 700,000 square foot convention center, located in Detroit's central business district (CBD). The structure is most notable as the historical home of the North American International Auto Show, held every January. Cobo Hall was opened to the public in 1960, and was constructed in the airspace directly above a portion of the John C. Lodge Freeway (M-10). This project and others that have been supported by the City of Detroit (expansion of Cobo Hall exhibition spaces) suggest that there are no legal objections to development in the airspace over, or below, public facilities. If this assumption holds true, spaces above or below public facilities may be utilized for more productive uses, including commercial, residential, institutional.⁵⁴

In recent years, other noteworthy joint development projects have included the Detroit Zoo, the Detroit Institute of Art. Mechanisms involving local, state, and federal organizations and agencies that may be used for the implementation of TOD projects in the city of Detroit are listed in Table 10.⁵⁵

Table 10. Development Project Implementation Funding Mechanisms: City of Detroit

	Jurisdiction	Agency	Program	Applications	Financing (Type)
1		FHWA	Pedestrian & Bicycle Safety Program	Research, developing guidelines, tools, safety countermeasures, identifying 'hot' spots.	—
2			Sustainable Communities	Regional planning, land use planning, affordable housing, multi-family housing, linking land uses, zoning reform, energy-efficient housing.	General Fund
3			HOPE VI	Elimination/reclamation of distressed public housing, demolition, rehab, new construction, supportive services for the relocated, green building.	Grants (Competitive)
4	Federal		Public Housing Program	Operating expenses, repairs, incorporating environmental sustainability, energy and water conservation.	Grants (Formula)
5		HUD	Housing Choice and Project-Based Vouchers	Provide funding to local public housing agencies for rental subsidies. Allow tenants to relocate closer to work, family, or places of worship.	—
6			Community Development Block Grants (CDBG)	May be used for low-to-moderate income persons, prevention of slums/blighted area, meets community development needs having urgency.	Grants (Formula)
7			Supportive Housing for the Elderly (Section 202) Supportive Housing for Persons with Disabilities (Section 811)	Support operating and maintenance costs so that rent prices remain affordable for those with very low incomes.	Grants (Competitive)
8			Housing/Office/Retail Development Program	Assistance for the construction, redevelopment, or improvement of real property.	
9	City of Detroit CBD	DDA	Small Business Loan Transactions Program	Assistance for building owners, tenants, and business owners, with the intent to halt decay of property values and to create new employment.	Loans
10			Business Development Loan Fund	Foster investment in nationally or regionally recognized chain retail/restaurant ventures.	
11			Real Property Gap Fund	Encourage investment in the rehabilitation of real property by Detroit residents.	
12			Neighborhood Enterprise Zones (NEZ)	Provide tax incentives for housing developments and improvements.	
13			Commercial Rehabilitation Act (PA 210 of 2005)	Encourage rehabilitation of commercial properties no less than 15 years old by abating taxes on new investments. Particular effort exerted in seeking grocery or produce markets.	
14	City of Detroit	DEGC	Personal Property Tax Abatement Program	Encourage development of the following projects: mining, manufacturing, R&D, wholesale trade, office operations.	Tax Relief
15			Obsolete Property Rehabilitation Program	Encourage rehabilitation and reconstruction in districts that may contain properties that are blighted or functionally obsolete.	
16			Renaissance Zone: Woodward Ave.	Approximately 2 acres of land is eligible for a number of tax incentives: business, income, state education, personal property, real property, utility use.	

Source: Detroit Economic Growth Corporation (DEGC), "About Us" (no date), <http://www.degc.org/about-degc/about-degc-2> (accessed January 7, 2014).

VIII. EXPERIENCE OF OTHER CITIES ON TOD AND BUS RAPID TRANSIT

In recent months, bus rapid transit (BRT) has been considered as an alternative mode of transportation by various cities in the U.S. and abroad, including Detroit. The project team observed the success of transit-oriented development (TOD) along the HealthLine (BRT) in Cleveland. In order to further examine the impact of BRT on TOD, a report prepared by the Breakthrough Technologies Institute of Washington D.C. was reviewed. The objective of this study was to examine the impact of BRT on TOD in six cities, namely Cleveland, Ohio; Boston, Massachusetts; El Monte, California (USA); Ottawa, York Region (Canada) and Brisbane (Australia).⁵⁶ Survey methodology was used to gather input from developers and government agencies concerning attributes of BRT that are considered when planning development. Considering Detroit's plan to introduce BRT as a future primary mode of public transportation, it is a relevant study. Among the major findings were:

- *Stakeholder Cooperation:* Cooperation among key stakeholders, including public agencies, non-profit development organizations, property owners, and private developers, is critical to success.
- *BRT Permanence:* For developers, permanence of the BRT is an important factor. Permanence can be demonstrated even with relatively low infrastructure investment, if there is a clear, long-term public agency commitment.
- *Service Schedule:* Frequency, speed and convenience of the service are important to many developers and property owners. These features differentiate BRT from conventional bus service, which is generally not considered appealing for TOD.
- *Streetscape Improvements:* In downscale corridors, streetscape improvements that accompany the BRT may be at least as important as the transit service for attracting new investment.
- *Prominent Station Design:* In some cities, developers and properties owners cited the value of a prominent visual profile for the BRT and aesthetically appealing infrastructure.
- *Streamlined Development Process:* It does not appear to be necessary to provide financial incentives for BRT-related TOD. Developers appeared much more interested in an expedited permitting or rezoning process, as time is a critical factor in making development projects financially viable.

IX. CONCLUSION

In this report, transit-oriented development (TOD) related activities of the four peer cities' transit authorities namely Atlanta, Cleveland, Denver and St. Louis were summarized. However, attributes (population density, average travel time etc.) of other cities were also reviewed as a part of this effort. Even though, Metro Detroit does not have a substantial transit system, a number of TOD-related activities similar to the above-mentioned cities have taken place. A set of recommendations were developed after examining the activities of various cities, including Detroit, as well as a bus rapid transit-related TOD report. It is to be noted that some recommendations are derived from our personal observations of various transit systems, including Detroit. The author believes strongly that implementation of such recommendations will assist in developing a world-class transit system in Detroit, and best practices from this report could be replicated in other regions.

GENERAL RECOMMENDATIONS REGARDING TRANSIT FOR THE RTA

The recommendations for the Southeast Michigan Regional Transit Authority (RTA) are:

- Provide mobility for all people by means of a sustainable world-class transportation system (e.g., Cleveland HealthLine), keeping long range investment in mind.
- Believe that “the person standing at the corner in the cold waiting for the ride is the most important person in the world and they only exist for that person” and act accordingly, above and beyond their own self-interest. This recommendation applies to all Southeast Michigan transit service providers.
- Use public-private partnerships (PPP) to fund TOD and walkable streets.
- Work closely with the Michigan Land Bank with the assistance of the Urban Land Institute.⁵⁷
- Work closely with mega-developers (such as Magic Plus), so that the fairgrounds, as well as other future developments (such as the planned development surrounding Masonic Temple) will include transit friendliness as one of their attributes.
- Encourage local government to contribute more than 32 percent (Detroit's current local contribution) of yearly operations cost.
- Pursue HUD and US DOT grants that support transit-oriented communities (TOCs).
- Recognize places of historical significance and use historical credits to aid development in partnership with developers.
- Provide GIS-based economic, demographic, land use, transit and walkability data for potential TOD developers to encourage and facilitate their plans.

- Work with cities along the main transit corridors to develop consistent corridor-wide zoning. RTA could suggest best practices for TOD-favoring zoning (or even a master plan).
- Designate at least one transit station within each city along the transit corridor as that city's information center (maintained by the respective city). To assure consistency, provide system-wide station standards of design, visual quality, and maintenance.
- Consider Smart Street concepts for applicability when building transit routes.
- Consider current transit route endpoint stations for BRT and BRT-related TOD. Candidates include: Mexican Town, Masonic Temple, New Center, Pontiac, Shelby Township, and Roseville stations.
- Examine Dearborn's preliminary TOD plan of intermodal transit center for compatibility with planned system-wide improvement.
- Work closely with existing agencies, such as the Woodward Avenue Action Association (WA3) and Golden Spike to promote TOD concepts along the Woodward corridor and other transit corridors.
- Become familiar with the TOD initiative tools developed by the WA3, Golden Spike, and other similar agencies.
- Work closely with M1-Rail while planning transit-related development activities.

RECOMMENDATIONS SPECIFIC TO BUS RAPID TRANSIT-RELATED (BRT) TRANSIT-ORIENTED DEVELOPMENT (TOD)

BRT has been selected as the preferred mode of future transportation for the Southeast Michigan region. The following recommendations for the RTA, in its leadership role, pertain to new and redeveloped TOD along the planned bus rapid transit (BRT) lines.

- Take the leadership role in fostering cooperation among key stakeholders, including public agencies, non-profit development organizations, property owners, and private developers. Such cooperation is critical to success.
- Be cognizant of and demonstrate the *permanence factor* of BRT. For developers, permanence of the BRT stations/route is an important consideration. Permanence can be demonstrated even with a relatively low infrastructure investment, if there is a clear, long-term public agency commitment.
- Frequency, speed and convenience of the service are important to many developers and property owners. These features differentiate BRT from conventional bus service, which is generally not considered appealing for TOD. Evaluate the level of service of various providers annually to develop means to improve service.

- In downscale corridors, streetscape improvements that accompany the BRT may be at least as important as the transit service for attracting new investment. Apply due diligence in creating and maintaining the streetscape improvements of each locale.
- In some cities, developers and property owners cited the value of a prominent visual profile for the BRT and aesthetically appealing infrastructure (i.e., HealthLine in Cleveland). Visit Cleveland to gain first-hand knowledge and experience about the prominent visual profile of HealthLine.
- BRT-related TOD developers are more interested in an expedited permitting or rezoning process, as time is a critical factor in making development projects financially viable. Work with cities, townships, counties and others to expedite TOD-related permitting/zoning processes.

ABBREVIATIONS AND ACRONYMS

4D	Density, Diversity, Design, Distance (to station)
AATA	Ann Arbor Transportation Authority
BWATC	Blue Water Area Transportation Commission
CBD	Central Business District
CDBG	Community Development Block Grants
CEO	Chief Operating Office
CTOD	Reconnecting America
DBRA	Detroit Brownfield Redevelopment Authority
DDA	Downtown Development Authority
DEGC	Detroit Economic Growth Corporation
DTC	Detroit Transportation Corporation
DUPA	Dwelling Units per Acre
EDA	Economic Development Assistance
EDC	Economic Development Corporation
EPA	United States Environmental Protection Agency
FAR	Floor Area Ratio
FasTracks	Program is a multi-billion dollar comprehensive transit expansion plan in the Denver, Co area
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GCRTA	Greater Cleveland Regional Transit Authority
GIS	Geographic Information System
GRTA	Georgia Regional Transit Authority
HealthLine	Bus-Rapid Transit System in Cleveland
HUD	United States Department of Housing and Urban Development
JD	Joint Development
LDFA	Local Development Finance Authority
LET	Lake Erie Transit
LLC	Limited Liability Company
LRT	Light Rail Transit
MARTA	Metropolitan Atlanta Regional Transit Authority
MDOT	Michigan Department of Transportation
MEDC	Michigan Economic Development Corporation
MetroLink	St. Louis region's light rail system
MPO	Metropolitan Planning Organization
MTA	Metropolitan Transit Authority
NDC	Neighborhood Development Corporation
NHL	National Hockey League
P3	Public-Private Partnership

PPP	Public-Private Partnership
RRT	Rolling Rapid Transit
RTD	Regional Transportation District
SEMCOG	Southeast Michigan Council of Governments
SEMTA	Southeast Michigan Transportation Authority
SGIA	Smart Growth Implementation Assistance
SMART	Suburban Mobility Authority for Regional Transportation
STP	Surface Transportation Program
TCRP	Transit Cooperative Research Program
TE	Transportation Enhancement
TIF	Tax Increment Financing
TIFA	Tax Incentive Finance Authority
TIFD	Tax Increment Financing District
TOC	Transit-Oriented Community
TOD	Transit-Oriented Development
UDM	University of Detroit, Michigan
ULI	Urban Land Institute
US DOT	U.S. Department of Transportation
WA3	Woodward Avenue Action Association

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