

# Regional Core Circulator Study Final Report

June 2005

**TOLEDO METROPOLITAN AREA COUNCIL OF GOVERNMENTS**



Prepared By:

Wilbur Smith Associates

In association with:

Parsons Brinckerhoff

Finkbeiner, Pettis, & Strout

Funk Luetke Skunda Marketing

Lomarado Group

Manuel Padron & Associates

Robert P. Madison International

Jakes Associates

The preparation of this report was financed jointly by the counties of Lucas and Wood, Ohio; Monroe County Michigan, the cities of Bowling Green, Maumee, Northwood, Oregon, Perrysburg, Rossford, Sylvania, and Toledo, Ohio; the Toledo Area Regional Transit Authority; the Toledo-Lucas County Port Authority; the Ohio Department of Transportation; and the U.S. Department of Transportation, Federal Highway Administration and the Federal Transit Administration.

The contents of this report reflect the view of the Toledo Metropolitan Area Council of Governments, which is responsible for the facts and accuracy of the data presented herein. The contents do not reflect the official views or policies of the Ohio Department of Transportation or the U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation.

## ABSTRACT

---

TITLE: Transportation Improvement Program 2006 - 2009

AUTHOR: Toledo Metropolitan Area Council of Governments

SUBJECT: Four-year Transportation Improvement Program for the Toledo Urbanized Area (TUA)

DATE: May 2005

COMPREHENSIVE  
AREA WIDE  
PLANNING AGENCY: Toledo Metropolitan Area Council of Governments

AUTHORIZED OFFICER: Anthony L. Reams, President

SOURCE OF COPIES: Toledo Metropolitan Area Council of Governments  
300 Dr. Martin Luther King, Jr. Drive  
P.O. Box 9508  
Toledo, Ohio 43697-9508  
(419) 241-9155

PROJECTS: FTA/FHWA/ODOT Agreement Number: 3225  
SEMATA Pass-Through Agreement and Memorandum of Understanding Between SEMCOG and TMACOG: June 11, 1973

NUMBER OF PAGES: 80 Plus Appendices

ABSTRACT: This document describes the Transportation Improvement Program (TIP) for the Toledo Urbanized Area for State of Ohio Fiscal Years 2006 through 2009. It describes the status of the Regional Transportation Plan; considers anticipated funding for transportation projects in the area; lays out the four-year program and project priorities; evaluates the financial capability to implement the program; and, considers Air Quality and Private Transit Provider objectives in programming projects. The total cost of all projects included in the four-year TIP is \$641,528,000.



**TABLE OF CONTENTS**

**TABLE OF CONTENTS**..... iii

**LIST OF TABLES** ..... v

**LIST OF FIGURES** ..... v

**LIST OF MAPS**..... vi

**LIST OF APPENDICES** ..... vi

**CHAPTER 1**

**TRANSPORTATION IMPROVEMENT PROGRAM FUNDAMENTALS** ..... 1

    Overview of the TIP..... 1

    Organization of this Document ..... 4

    Regional Policies for Developing the TIP and Managing TMACOG-Area Funds ..... 4

    General and Project Management Policies ..... 5

    Ranking and Scheduling Policies for Previously Ranked Projects ..... 6

    Solicitation, Ranking, and Scheduling Policies for New Projects ..... 7

**CHAPTER 2**

    Description of Federal Aid Program Funds ..... 57

    The Final 2006-2009 TIP Program ..... 59

    Other Significant Projects Not Funded ..... 60

    Other Significant Projects Funded By Non-Federal Funds..... 60



# TABLE OF CONTENTS

---

<u>CHAPTER</u>	<u>CONTENTS</u>	<u>PAGE</u>
	<b>EXECUTIVE SUMMARY</b>	
<b>1.0</b>	<b>PROJECT SETTING.....</b>	<b>1-1</b>
1.1	OVERVIEW OF PROJECT STAGES .....	1-1
1.1.1	Stage 1: Downtown Area Analysis.....	1-1
1.1.2	Stage 2: Economic Benefit Assessment of Downtown Streetcar .....	1-1
1.1.3	Stage 3: Investigation of Transit Options Between the University of Toledo.....	1-2
	and Downtown	
1.2	STUDY PURPOSE .....	1-2
1.3	PUBLIC INVOLVEMENT PROCESS .....	1-3
1.3.1	Steering Committee .....	1-3
1.3.2	Task Force .....	1-3
1.3.3	Stakeholder Interviews .....	1-4
1.3.4	Stakeholder Conference.....	1-5
1.3.5	Public Meetings .....	1-5
1.3.6	Group Briefings .....	1-5
1.4	REPORT PRESENTATION .....	1-5
<b>2.0</b>	<b>PURPOSE AND NEED.....</b>	<b>2-1</b>
2.1	PLANNING CONTEXT .....	2-1
2.1.1	Regional Land Use .....	2-1
2.1.2	Study Area .....	2-1
2.1.3	Recent Planning Studies .....	2-2
2.1.4	Study Area Transportation Conditions .....	2-5
2.2	PUBLIC INPUT INTO PROBLEMS AND OPPORTUNITIES .....	2-9
2.3	GOALS AND OBJECTIVES.....	2-11
<b>3.0</b>	<b>PROJECT ALTERNATIVES AND EVALUATION METHODOLOGY.....</b>	<b>3-1</b>
3.1	INITIAL SCREENING OF OPTIONS .....	3-1
3.2	STUDY QUESTIONS AND DEFINITION OF FINAL ALTERNATIVES .....	3-2
3.2.1	Overall Mode Alternatives .....	3-3
3.2.2	Alternatives for Connection to Toledo Museum of Art and Toledo Zoo .....	3-13
3.2.3	Alternatives for Connection Across River.....	3-16
3.2.4	Bus Loop and Station Operations Alternatives .....	3-20
3.2.5	Traffic Operation Alternatives.....	3-24
3.2.6	Fundamentals.....	3-26
3.3	EVALUATION METHODOLOGY .....	3-29
3.3.1	Future Study Area Demographics .....	3-29
3.3.2	Ridership Estimation Approach.....	3-35
3.3.3	Traffic Analysis .....	3-35
3.3.4	Environmental Assessment.....	3-36
3.3.5	Measures of Effectiveness .....	3-36

<u>CHAPTER</u>	<b>CONTENTS (cont.)</b>	<u>PAGE</u>
<b>4.0</b>	<b>DETAILED EVALUATION – STAGES 1 AND 2 .....</b>	<b>4-1</b>
4.1	TRAFFIC IMPACTS.....	4-1
4.2	ENVIRONMENTAL IMPACTS .....	4-4
4.3	TRANSIT AND TRANSPORTATION IMPACTS .....	4-4
	4.3.1 Overall Mode.....	4-7
	4.3.2 To Museum of Art and Zoo.....	4-7
	4.3.3 Across River .....	4-8
	4.3.4 Central Transfers .....	4-8
	4.3.5 Bus Loop Operations .....	4-9
4.4	COST ESTIMATES .....	4-9
	4.4.1 Overall Mode.....	4-9
	4.4.2 To Museum of Art and Zoo.....	4-11
	4.4.3 Across River .....	4-12
	4.4.4 Central Transfers .....	4-12
	4.4.5 Bus Loop Operations .....	4-12
	4.4.6 Street Operations .....	4-12
4.5	ECONOMIC IMPACTS.....	4-13
4.6	OVERALL EVALUATION.....	4-14
	4.6.1 Overall Mode.....	4-15
	4.6.2 To Museum of Art and Zoo.....	4-15
	4.6.3 Across River .....	4-18
	4.6.4 Bus Loop Operations .....	4-18
	4.6.5 Street Operations .....	4-18
<b>5.0</b>	<b>UNIVERSITY CORRIDOR ANALYSIS.....</b>	<b>5-1</b>
5.1	PURPOSE AND NEED .....	5-2
	5.1.1 Planning Context .....	5-2
	5.1.2 Study Area.....	5-2
	5.1.3 Activity Centers.....	5-2
	5.1.4 Monroe Corridor.....	5-4
	5.1.5 Regional Transportation .....	5-4
	5.1.6 Summary.....	5-5
5.2	ALTERNATIVES .....	5-5
	5.2.1 Corridor Options.....	5-5
	5.2.2 Mode Options .....	5-6
	5.2.3 Technology Corridor .....	5-6
	5.2.4 Monroe Corridor.....	5-8
	5.2.5 Bancroft Corridor .....	5-10
	5.2.6 Dorr Corridor.....	5-12
	5.2.7 Nebraska Corridor .....	5-14
5.3	EVALUATION .....	5-14
5.4	CONCLUSIONS .....	5-16
	5.4.1 Extension to Toledo Museum of Art .....	5-16

**CONTENTS (cont.)**

<u>CHAPTER</u>		<u>PAGE</u>
<b>6.0</b>	<b>LOCALLY PREFERRED ALTERNATIVE.....</b>	<b>6-1</b>
6.1	OVERALL MODE.....	6-1
6.2	CONNECTION TO MUSEUM OF ART AND ZOO.....	6-5
6.3	CONNECTION ACROSS RIVER.....	6-5
6.4	BUS LOOP OPERATIONS .....	6-6
6.5	DOWNTOWN STREET OPERATIONS .....	6-6
6.6	FUNDAMENTALS.....	6-9
<b>7.0</b>	<b>IMPLEMENTATION PLAN .....</b>	<b>7-1</b>
7.1	PHASING.....	7-1
7.2	CAPITAL COSTS .....	7-1
7.3	ANNUAL OPERATING AND MAINTENANCE COSTS.....	7-4
7.4	FUNDING SOURCES .....	7-6
	7.4.1 Generalized Sources of Funds .....	7-6
	7.4.2 Federal Transit Funds .....	7-7
	7.4.3 State Transit Funds .....	7-9
	7.4.4 Local Transit Funds .....	7-9
	7.4.5 Private Funds for Transit .....	7-11
	7.4.6 Assumed Funding Program .....	7-11
	7.4.7 Operating Funds .....	7-12
	7.4.8 Cost and Funding by Phase .....	7-12
7.5	PROJECT IMPLEMENTATION APPROACH.....	7-13

**APPENDICES**

**APPENDIX**

A	STEERING COMMITTEE AND TASK FORCE MEMBERS
B	INITIAL MODES CONSIDERED
C	STREETCAR MEMO
D	NOTES ON PRT COSTS
E	TOLEDO MUSEUM OF ART TO ZOO SHUTTLES ANALYSIS MEMO
F	WATER-BASED TRANSPORTATION ASSESSMENT MEMO
G	AERIAL GONDOLA MEMO
H	CENTRAL TRANSFER ANALYSIS MEMO
I	TRAFFIC ANALYSIS MEMO
J	SAMPLE TAXI REGULATIONS
K	RIDERSHIP ESTIMATION APPROACH MEMO
L	ENVIRONMENTAL SCAN MEMO
M	COST ASSUMPTIONS MEMO
N	ECONOMIC IMPACT ANALYSIS OF DOWNTOWN TOLEDO STREETCAR
O	UNIVERSITY CORRIDOR ANALYSIS MEMO
P	FUNDING OPTIONS MEMO

ILLUSTRATIONS

<u>FIGURE</u>		<u>PAGE</u>
2-1	Study Area .....	2-2
2-2	Major Activity Centers .....	2-3
2-3	Existing Transit Facilities .....	2-6
2-4	Current Traffic Conditions .....	2-8
2-5	Existing Pathways.....	2-10
3-1A	Status Quo – Existing Lunch Trolley Routes .....	3-4
3-1B	Rubber-tired Circulator Alternative.....	3-5
3-1C	Streetcar Alternative .....	3-6
3-1D	Personal Rapid Transit Alternative.....	3-7
3-2	Vintage Streetcar Vehicles.....	3-10
3-3	Streetcar Cross-Sections .....	3-11
3-4	Conceptual Transportation Center Rendering .....	3-12
3-5	Personal Rapid Transit Concept .....	3-14
3-6	Location of Museum of Art and Zoo .....	3-15
3-7	Connection Across River Alternatives .....	3-17
3-8	Water-Borne Vessels and Docks .....	3-18
3-9	Aerial Gondola Concept .....	3-19
3-10	Bus Loop Alternatives .....	3-22
3-11	Traffic Operations Alternatives .....	3-25
3-12	Fundamental Improvements .....	3-27
3-13	Study Area Zone System .....	3-31
5-1	Activity Centers and Alignments.....	5-3
5-2	Technology Corridor .....	5-7
5-3	Monroe Corridor.....	5-9
5-4	Bancroft Corridor .....	5-11
5-5	Dorr Corridor .....	5-13
6-1	Recommended Streetcar System .....	6-4
6-2	Recommended Bus Loop Operation.....	6-7
6-3	Recommended Street Operation Changes .....	6-8
7-1	Proposed Phasing.....	7-2

TABULATIONS

<u>TABLE</u>		<u>PAGE</u>
1-1	Study Questions and Alternatives.....	1-4
2-1	Goals and Objectives .....	2-11
3-1	Potential Improvement Options.....	3-2
3-2	Final Alternatives.....	3-3
3-3	Rubber-tired Circulator Route Characteristics .....	3-8
3-4	Streetcar Alignment .....	3-10
3-5	Aerial Gondola Concept Characteristics.....	3-20
3-6	Central Transfer Station Analysis.....	3-23
3-7	Square Footage in Study Area .....	3-32
3-8	Future Person Activity in Study Area.....	3-33
3-9	Measures of Effectiveness .....	3-36
4-1	Intersection Level of Service Summary.....	4-2
4-2	Traffic Impacts.....	4-3
4-3	Environmental Impacts .....	4-5
4-4	Transit and Transportation Impacts .....	4-6
4-5	Streetcar and Circulator Ridership Estimates .....	4-8
4-6	Estimates of Capital and Annual Operating Costs.....	4-10
4-7	Economic Benefits from Corridor Redevelopment .....	4-15
4-8	Evaluation Matrix – Overall Mode.....	4-16
4-9	Evaluation Matrix – Connection to Museum of Art and Zoo.....	4-17
4-10	Evaluation Matrix – Connection Across River.....	4-19
4-11	Evaluation Matrix – Bus Loop Operations.....	4-20
4-12	Evaluation Matrix – Downtown Street Operations.....	4-21
5-1	University Corridor Alignment Summary .....	5-10
5-2	University Corridor Activity Matrix.....	5-15
6-1	Locally Preferred Alternative .....	6-2
7-1	Locally Preferred Alternative Capital Costs.....	7-3
7-2	Estimated Annual Operating and Maintenance Costs .....	7-5
7-3	Ridership and Revenue Estimate .....	7-5
7-4	Anticipated Sales Tax Yields.....	7-12
7-5	LPA Funding by Phase.....	7-14

**ABBREVIATIONS**

ADA	Americans with Disabilities Act
COSI	Center of Science and Industry
DTI	Downtown Toledo, Inc.
FTA	Federal Transit Administration
HCS	Highway Capacity Software
LOS	Level of Service
LPA	Locally Preferred Alternative
MUO	Medical University of Ohio
MLK	Dr. Martin Luther King, Jr.
MSA	Metropolitan Statistical Area
NEPA	National Environmental Policy Act
NLA	Net Leasable Area
PRT	Personal Rapid Transit
RCCS	Regional Core Circulator Study
TARTA	Toledo Area Regional Transit Authority
TH	The Toledo Hospital
TMA	Toledo Museum of Art
TMACOG	Toledo Metropolitan Area Council of Governments
TO	Traffic Operations (used in numbering of schemes)
TSM	Transportation System Management
UT	University of Toledo