Transportation Technical Director Report

Transportation Projects and Planning Highlights
For more information, please contact Pong Wu (pwu@rcrpc.org)

08/12/2024

Dear Committee Members:

As we kick off the new fiscal year 2025 (7/1/2024 -6/30/2025), I wanted to take a moment to highlight some of the key accomplishments of the MPO during FY2024. Throughout the year, our team worked diligently to complete a range of transportation projects and planning activities in accordance with federal requirement and our annual Unified Planning Work Program (UPWP). We are in the process to report that these efforts with documentation for submission to the FHWA and ODOT and all of esteemed committee members. Some of highlight projects and transportation planning actives from FY2024 include:

- MPO regional-wide local road pavement evaluation and safety project was done. The products of this project include the pavement condition by roadway location, jurisdiction & street ownership, sidewalk/pedestrian condition & width by lane location, traffic sign condition, lane marking and pavement marking condition, etc.. Entities who are interested in obtaining the results either a spreadsheet with conditions by roadways or GIS maps can make their requests via email at any time. The MPO is preparing online map for displaying the results as well. Following tables present the overall summary of pavement and sidewalk/pedestrian by jurisdiction (More information about the pavement condition by length & jurisdiction is attached behind).

Pavemnet Condition
MPO Local Road Pavement Evaluation and Safety Project Results

Pavement Type	Excellent	Very Good	Good	Fair	Failed	Poor	Very Poor	Total Mile
Asphalt	64.08	115.55	428.01	212.96	5.14	109.93	71.61	1008.42
Bridge (Concrete)								0.08
Concrete	0.16	1.19	0.56	0.17			0.10	2.18
Undeterminable								0.36
Total Mile	64.45	116.74	428.57	213.53	5.14	109.93	71.78	1012.41

Sidewalk Conditions along All-Roadways by Jurisdiction (Functional Class 1-7)

Entities	Fair	Good	Poor	Total (ft)
Bellville	2796.61	37204.83	54.27	40055.71
Butler	6010.05	9352.60	4269.72	19632.37
Lexington	12300.26	143095.86	81.50	155477.63
Lucas	1998.89	6325.89	190.53	8515.31
Mansfield	256258.45	444816.16	118492.91	819567.52
Ontario	16712.97	81351.14	139.53	98203.64
Plymouth	12309.09	15873.02	6688.65	34870.76
RIC	9834.29	17852.47	892.19	28578.94
Shelby	94988.86	59136.42	3643.94	157769.21
Shiloh	9943.65	1599.15	1922.84	13465.63
Total (ft)	423153.11	816607.54	136376.07	1376136.71

- Completed a three-month transportation needs online survey for feedback from the public on concerned locations for transportation improvement and improvement priorities throughout the Richland County and MPO transportation planning study area. The survey included four steps to gather feedback on transportation needs from the public:

  o Step 1 – What is Important to You: Reduce crashes; Improve bicycle and pedestrian connections; Reduce Traffic Bottlenecks; Maintain and repair roads and bridges; Extend or add lanes to major roads; Improve freight routing around our community efficiently and reduce conflicts with other traffic; Improve existing public transportation service

  o Step 2. Investment / Budget Priorities: The survey participants were asked to allocate a total of symbolistic $100 funds to the same improvement concepts included in Step 1.

  o Step 3. Top Project Needs by Dropping a Pin at Locations by Improvement Category: In this Step, participants could drop markers to a map to show locations where they think there are transportation issues or needs. They also had the option to add a comment, should they desire.

  o Step 4 – Final Questions: The last step of the survey asked additional questions regarding the participants' personal information and their opinions on how the existing transportation system supports their daily activities.

  Following tables are the survey results from step 1 and step 2:

Step 1: What is important to you?							
Options on Transportation Improvement Strategy	Participants's Votes on "What is important to you"						
	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7
Reduce crashes	40%	20%	15%	10%	8%	6%	1%
Improve bicycle and pedestrian connections	10%	21%	19%	13%	10%	16%	11%
Reduce Traffic Bottlenecks	4%	14%	27%	23%	21%	6%	4%
Maintain and repair roads and bridges	30%	26%	12%	20%	8%	3%	1%
Extend or add lanes to major roads	3%	5%	10%	13%	32%	23%	13%
Improve freight routing around our community efficiently and reduce conflicts with other traffic	2%	3%	11%	8%	14%	33%	28%
Improve existing public transportation service	10%	10%	6%	12%	8%	12%	42%
Total	100%	100%	100%	100%	100%	100%	100%

Step2: Allocate a total of symbolistic $100 to the save improvement concepts in Step1		
Investmnet Priority for the Region	Average Allocation ($)	Percentage
Reduce crashes	$17.31	17%
Improve bicycle and pedestrian connections	$12.76	13%
Reduce Traffic Bottlenecks	$9.86	10%
Maintain and repair roads and bridges	$29.24	29%
Extend or add lanes to major roads	$7.45	7%
Improve freight routing	$7.79	8%
Improve existing public transportation service	$15.59	16%
Total	$100.00	100%

Survey results will be used as one of references in developing the transportation improvement projects for the 2025-2050 LRTP. More information about the regional transportation improvement needs survey could be found in the packet.

- Conducted a Before / After Traffic Crash Analysis for region's existing two roundabouts at Straub Rd. / Middle-Bellville Rd. and E Cook Rd. / Mansfield-Lucas Rd.. The results from the before/after analysis indicates that there has been a significant reduction in total crashes and injury related crashes at both intersections after the roundabout installations. These reductions have not only saved lives but also resulted in substantial cost savings to society. The study also indicates that the overall average crash reduction rate (64%) in Richland County area from existing roundabouts is better than the Ohio State wide average (44%) which means more

- Other major tasks done during FY2024 include: prepared FY2025 UPWP with including planning projects to be done in FY 2025; technical assistance & support for traffic growth rate as per communities requests; conducted Bike-to-work-day event; Resolutions and Administrative Modifications for 2024-2027 TIP projects; GIS maps and data services; Worked with Consultant and prepared schedules as well as conducted Public meetings for the LRTP

Call for Project for LRTP and 2026-2029 TIP. The 2026-2029 Statewide Transportation Improvement Program (STIP) Development period begins this fall. MPO is preparing calls for projects for both 2026-2029 TIP projects and the projects for LRTP. Since the LRTP's short-term period (2025-2030) covers the 2026-2029 TIP period, to streamline the process and align with the LRTP short-term, we will combine the call for projects for both programs together. The projects for LRTP mid-term will be 2031-2040 and project for LRTP long-term will be 2041-2050.

We are currently preparing/coding all projects received from the online survey into the GIS and preparing/coding all poor conditions obtained from pavement assessment & safety project as well to to the GIS. It should be done soon and will be provided to entities for reference in planning the local projects for the LRTP.   A call for projects will be sent out and posted on RCRPC website in the week of 18th, August. If you have any questions, please contact me at pwu@rcrpc.org

Sincerely,

Pong Wu

Pong Wu
Transportation Technical Director
RCRPC

MPO Local Road Pavement and Safety Evaluation Project Results -
Pavement Condition by Length & Jurisdiction

Row Labels	Pavement Type	Excellent	Very Good	Good	Fair	Failed	Poor	Very Poor	Undeterminable	Total Mile
Bloominggrove	Asphalt		0.76	17.87	0.12					18.74
Bloominggrove Total			0.76	17.87	0.12					18.74
Butler	Asphalt			23.97	0.69					24.66
Butler Total				23.97	0.69					24.66
Cass	-								0.07	0.07
	Asphalt	0.49	0.65	20.84	2.01		2.26	0.36		26.61
Cass Total		0.49	0.65	20.84	2.01		2.26	0.36	0.07	26.67
Franklin	Asphalt		3.78	13.07	1.18	0.40	0.33	0.08		18.84
Franklin Total			3.78	13.07	1.18	0.40	0.33	0.08		18.84
Jackson	Asphalt	2.10	2.30	23.47	2.17		0.30	1.63	0.02	32.00
	Concrete			0.02				0.10		0.12
Jackson Total		2.10	2.30	23.49	2.17		0.30	1.73	0.02	32.11
Jefferson	Asphalt	0.57	4.78	26.06	23.48		4.32	1.86	0.02	61.08
	Concrete	0.03								0.03
Jefferson Total		0.60	4.78	26.06	23.48		4.32	1.86	0.02	61.12
Madison	Asphalt	4.27	6.36	8.08	20.53	2.66	16.15	14.76		72.82
Madison Total		4.27	6.36	8.08	20.53	2.66	16.15	14.76		72.82
Mansfield	-	0.22			0.40			0.06	0.44	1.11
	Asphalt	38.34	35.53	58.70	83.28	0.47	17.55	6.39	0.85	241.11
	Concrete	0.09	0.58	0.11	0.07					0.84
Mansfield Total		38.64	36.12	58.81	83.74	0.47	17.55	6.45	1.29	243.06
Mifflin	Asphalt	0.96	10.66	6.75	7.58	0.06	4.86	7.10		37.98
Mifflin Total		0.96	10.66	6.75	7.58	0.06	4.86	7.10		37.98
Monroe	Asphalt	4.37	2.92	29.06	9.58	0.37	1.62	1.92		49.84
	Concrete				0.02					0.02
Monroe Total		4.37	2.92	29.06	9.60	0.37	1.62	1.92		49.86
Perry	Asphalt		4.98	17.98	3.53	0.09	1.12	0.09		27.78
	Concrete			0.14						0.14
Perry Total			4.98	18.11	3.53	0.09	1.12	0.09		27.92
Plymouth	Asphalt	0.10	1.67	26.81	2.58	0.07	4.75	5.12	0.18	41.27
	Concrete		0.13							0.13
Plymouth Total		0.10	1.80	26.81	2.58	0.07	4.75	5.12	0.18	41.40
Sandusky	Asphalt		5.27	9.43	1.24		1.52	0.17		17.63
Sandusky Total			5.27	9.43	1.24		1.52	0.17		17.63
Sharon	-								0.02	0.02
	Asphalt	4.04	6.89	21.87	9.02	0.32	7.87	8.27	0.06	58.34
	Concrete	0.04	0.01	0.08	0.08					0.22
Sharon Total		4.08	6.91	21.95	9.10	0.32	7.87	8.27	0.08	58.58
Springfield	Asphalt	3.37	8.91	36.82	7.83	0.15	21.63	6.29		85.00
	Concrete		0.37	0.22						0.59
	Undeterminable								0.03	0.03
Springfield Total		3.37	9.28	37.04	7.83	0.15	21.63	6.29	0.03	85.62

MPO Local Road Pavement and Safety Evaluation Project Results - Pavement Condition by Length & Jurisdiction

Row Labels	Pavement Type	Excellent	Very Good	Good	Fair	Failed	Poor	Very Poor	Undeterminable	Total Mile
Troy	Asphalt	4.04	8.33	19.16	12.79		5.89	4.67		54.88
Troy Total		4.04	8.33	19.16	12.79		5.89	4.67		54.88
Washington	Asphalt	0.83	4.10	25.17	12.78		5.25	6.79		54.92
	Bridge (Concrete)								0.08	0.08
	Undeterminable								0.14	0.14
Washington Total		0.83	4.10	25.17	12.78		5.25	6.79	0.22	55.14
Weller	Asphalt	0.38	4.91	21.70	1.82	0.11	0.45	0.05		29.41
	Concrete		0.02							0.02
	Undeterminable								0.19	0.19
Weller Total		0.38	4.93	21.70	1.82	0.11	0.45	0.05	0.19	29.63
Worthington	-								0.16	0.16
	Asphalt	0.22	2.77	21.19	10.76	0.46	14.07	6.06		55.52
	Concrete		0.06							0.06
Worthington Total		0.22	2.84	21.19	10.76	0.46	14.07	6.06	0.16	55.75
Total Mile		64.45	116.74	428.57	213.53	5.14	109.93	71.78	2.27	1012.41

Richland County Regional Planning Commission
TECHNICAL ADVISORY COMMITTEE MEETING
Location: 16 N Walnut St, Mansfield, OH
August 12th 2024, **Monday @ 2:00pm**

AGENDA

1.	Roll Call	Bob Bianchi
2.	Approval of Minutes of the TAC Meeting on May 13th , 2024	Bob Bianchi
3.	Resolutions	Pong Wu

    1) Resolution 24-18: Adopting Safety Targets for CY 2025
    2) Resolution 24-19: 2024-2027 TIP Amendment PID 121695
    3) Resolution 24-20: Adopting Social-Economic Data for LRTP
    4) Resolution 24-21: 2024-2027 Transit Amendment PID 122098   Jean Taddie
    5) Resolution 24-22: 2024-2027 TIP Amendment PID 121689
    6) Resolution 24-23: 2024-2027 TIP Amendment PID121168

4. For Information (Transportation Planning & Project Updates)

    1) Report on Before/After Traffic Crash Analysis for the Region's   Pong Wu
       Existing Two Roundabouts

    2) 2025-2050 LRTP & Public Involvement Update   Pong Wu

       a. Transportation Needs Survey Results & Concerned Locations for
          Improvement Received from the Survey

       b. Next Public Meeting, August 13, 2024

       c. Call for Projects
-        2025-2029 Short-Term/TIP,
-        2030-2040 Mid-Term, and
-        2041-2050 Long-Term

    3) Summary of MPO Social-Economic Data for 2025-2050 LRTP Update   Pong Wu

5.	Other Transportation Issues from the floor and comments	Bob Bianchi
6.	Adjournment (Next TAC Meeting, October 14th Monday @ 2:00 pm)	

This meeting is open to the public and citizen input is encouraged. Any person wishing to speak on any scheduled item may do so upon recognition of the Chairperson. In accordance with the Americans with Disabilities Act, any person requiring special accommodations to participate in this meeting should contact the RCRPC/MPO 48 hours prior to the meeting by calling (419) 774-5684, or email to rcrpc@rcrpc.org. The MPO's planning process is conducted in accordance with Title VI of the Civil Rights Act of 1964 and Related Statutes. Any person desiring to have an item placed on the agenda shall make a request in writing with a description and summary of the item, to the RCRPC/MPO Transportation Technical Director or MPO Chairman 14 days prior to the date of the next scheduled meeting of the MPO.

Richland County Regional Planning Commission
TECHNICAL ADVISORY COMMITTEE MEETING

16 N Walnut St, Mansfield, OH
May 13, 2024 2:00 pm

Minutes

Meeting called to order by Committee Chair, Bob Bianchi at 2:01pm

1. **Roll Call taken and there is a quorum.**

Technical Advisory Committee	Present	Chair * / Vice Chair	Present
Adam Gove	X	Bob Bianchi *	X
Bob Bianchi	X	Jason Burgholder	X
Jason Burgholder	X	**TAC - Attendee**	
Jason Larson		Jean Taddie	X
Ellen Heinz	X	Adam Hill-Warren	X
Jeff Kennedy	X	Betsy Chapman	X
Bob Jarvis	X	Jason Werner	
Joe Gies	X	Jotika Shetty	X
Teri Brenkus	X	Pong Wu	X
Scott Ockunzzi	X	Nelson Shogren	X
Randy Hutchinson	X	Jonathan Groeger	X
Patrick Schwan		Kris Knapp	X
Christ Stanfield		Jodie Perry	X

2. **Approval of Minutes of the TAC Meeting on February 12th, 2024**

Adam Gove made a motion to approve the minutes as presented, Bob Jarvis seconded the motion and it carried unanimously.

3. **Resolutions Presented**
    1. Resolution 24-12: Urban Planning Process

    2. Resolution 24-13: Reaffirmation of LRTP 2045

    3. Resolution 24-14: FY 2025 UPWP/Overall Work Program

    4. Resolution 24-15: 2024-2027 Transit PID: 118354 Amendment

    5. Resolution 24-16: Filing Auth. with ODOT

    6. Resolution 24-17: 2024-2027 TIP Amendment PID121396

Pong Wu gave a brief instructions to each of resolutions, before voting to approve the presented resolutions Bob Bianchi requested motions to make Ellen Heinz and Terry Brenkus voting members of the Technical Advisory Committee.

Randy Hutchinson made the motion to make Ellen Heinz a voting member of the Technical Advisory Committee, Joe Geis seconded the motion, motion passed.

Joe Gies made a motion to accept Terry Brenkus as a voting member of the Technical Advisory committee to replace Larry Weirich, Bob Jarvis seconded the motion, motion passed.

Joe Gies made a motion to approve Resolution 24-12 as presented, Jason Burgholder seconded the motion, motion passed.

Adam Gove made a motion to approve Resolution 24-13 as presented, Joe Gies seconded the motion, motion passed.

Bob Jarvis made a motion to approve Resolution 24-14 as presented, Joe Gies seconded the motion, motion passed.

Bob Jarvis made a motion to approve Resolution 24-15 as presented, Randy Hutchinson seconded the motion, motion passed.

Randy Hutchinson made a motion to approve Resolution 24-16 as presented, Bob Jarvis seconded the motion, motion passed.

Joe Gies made a motion to approve Resolution 24-17 as presented, Adam Gove seconded the motion, motion passed.

4. **For Information (Transportation Planning & Project Updates)**
    1. National Bike-to-Work Day Safety Guide
        - Pong Wu gave update on status of the project to take place

on May 17th, 2024.
- Nelson Shogren presented on Bike Safety

2. Presentation: Pavement and Inventory Survey Update given by Jonathan Groeger
3. FY2025 OWP/UPWP Update – Report postponed to next meeting for sake of time
4. 2025-2050 LRTP Public Involvement Update
   - Public Meetings Schedules presented by Pong Wu
     - Can be found on rcrpc.org
     - June 18th 9-1 and 2-4 (Existing Conditions)
     - August 13th 2-4 and 5-7 (Needs)
     - October 24th 2-4 and 5-7 (Cost)
   - Online Survey Results from April presented by Pong Wu
5. 2025-2029 TIP Development Schedule & Call for Projects presented by Pong Wu
6. RTPO – Potential to form a Rural Planning Organization – Report postponed to next meeting for sake of time

5. Other Transportation Issues from the floor and comments
   1. No reports given

6. Adjournment (Next TAC Meeting, August 12th Monday @ 2 pm)

Joe Gies made a motion to adjourn the meeting at 3:07pm, Adam Gove seconded, motion passed.

This meeting is open to the public and citizen input is encouraged. Any person wishing to speak on any scheduled item may do so upon recognition of the Chairperson. In accordance with the Americans with Disabilities Act, any person requiring special accommodations to participate in this meeting should contact the RCRPC/MPO 48 hours prior to the meeting by calling (419) 774-5684, or email to rcrpc@rcrpc.org. The MPO's planning process is conducted in accordance with Title VI of the Civil Rights Act of 1964 and Related Statutes. Any person desiring to have an item placed on the agenda shall make a request in writing with a description and summary of the item, to the RCRPC/MPO Transportation Technical Director or MPO Chairman 14 days prior to the date of the next scheduled meeting of the MPO.

RESOLUTION 24-18
OF THE COORDINATING COMMITTEE OF THE CONTINUING COMPREHENSIVE
LAND-USE AND TRANSPORTATION PROGRAM FOR RICHLAND COUNTY, OHIO

A RESOLUTION ADOPTING ODOT ANNUAL SAFETY PERFORMANCE TARGETS FOR 2025

WHEREAS, the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission who is designated as the Metropolitan Planning Organization (MPO) for the Mansfield urbanized area by the Governor acting through the Ohio Department of Transportation (ODOT) in cooperation with locally elected officials of Richland County; and

WHEREAS, Federal Rule 23 CFR 490 requires states to establish five performance measures and set target for those measures to demonstrate fatal and serious accident reductions on all public roads.

WHEREAS, ODOT has established five Safety Measures and have set a target of 2% reduction in all five categories.

Ohio Safety Performance Targets for CY 2025	
Performance Measure	**CY 2025 Target***
Number of Fatalities	1,180
Fatality Rate (per 100M VMT)	1.08
Number of Serious Injuries	7,482
Serious Injury Rate (per 100M VMT)	6.51
Number of Nonmotorized Fatalities and Serious Injuries	809
* This target value baseline is (2019-2023) five-year rolling annual average	
CY = Calendar Year.	

WHEREAS, MPOs must establish targets for their respective areas or adopt a resolution supporting ODOT in achieving the state targets; and

WHEREAS, Richland County Regional Planning Commission agrees to plan and program projects that will contribute toward the achievement of these targets

NOW, THEREFORE, BE IT RESOLVED THAT, the Coordinating Committee of the Continuing Comprehensive Land Use and Transportation Program for Richland County:

Approves supporting ODOT's CY's 2025 Safety Performance Measure targets as identified.

Certification:
The foregoing resolution was approved by the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission at its regular meeting held on August 28, 2024.

By:

Attest:

_____
Deanna West-Torrence   Date
President

_____
Jotika Shetty   Date
Executive Director/Secretary

RESOLUTION 24-19
OF THE COORDINATING COMMITTEE OF THE CONTINUING COMPREHENSIVE
LAND-USE AND TRANSPORTATION PROGRAM FOR RICHLAND COUNTY, OHIO

A RESOLUTION AMENDING THE
FY2024 – FY2027 TRANSPORTATION IMPROVEMENT PROGRAM

WHEREAS, the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission who is designated as the Metropolitan Planning Organization (MPO) for the Mansfield urbanized area by the Governor acting through the Ohio Department of Transportation (ODOT) in cooperation with locally elected officials of Richland County; and

WHEREAS, the MPO has prepared and approved a Transportation Improvement Program for Fiscal Years 2024 – 2027 and found this project is consistent with the approved Long Range Transportation Plan, DIRECTION *Looking Forward 2045.*

WHEREAS, City of Lexington is sponsoring a planning phase study project.

WHEREAS, MPO RCRPC has adopted the following project of planning phase study in its FY 2025 annual UPWP and requested an amendment to the FY24-27 TIP to reflect the following:

PID: 121695 RIC RCRPC Lexington SR97 Connector Study

Event	SAC	Amount	Type	Fiscal Year
44-Other	4TD7/R103	*$198,000*	Federal	2025
44-Other	LNTP	*$22,000*	State	2025
44-Other	LNTP	*$22,000*	Local	2025

NOW, THEREFORE, BE IT RESOLVED THAT, the Coordinating Committee of the Continuing Comprehensive Land Use and Transportation Program for Richland County:

Adopts this Amendment to the Transportation Improvement Program for fiscal years 2024 – 2027 that recommends planning phase study of PID: 121695 – Lexington SR97 Connector Study

Certification:
The foregoing resolution was approved by the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission at its regular meeting held on August 28, 2024.

By: Attest:

_____   _____
Adam Gove   Date   Jotika Shetty   Date
President   Executive Director/Secretary

RESOLUTION 24-20
OF THE COORDINATING COMMITTEE OF THE CONTINUING COMPREHENSIVE
LAND-USE AND TRANSPORTATION PROGRAM FOR RICHLAND COUNTY, OHIO

A RESOLUTION ENDORSING REGIONAL BASE YEAR AND FUTURE YEARS POPULATION, HOUSEHOLD AND EMPLOYMENT CONTROL TOTALS FOR USE IN THE 2025-2050 LONG RANGE TRANSPORTATION PLAN

WHEREAS, Title 23 CFR §450.324, require the transportation plan's validity and consistency with current and forecasted transportation and social-economic conditions and trends and to extend the forecast period to at least a 20-year planning horizon; and

WHEREAS, RCRPC MPO staff have been working with the ODOT and the ASI consulting firm to develop base year (2025) and future years (2030, 2040, 2050) population, households and employment control totals for each locality for use in the Region's 2025-2050 Long-Range Transportation Plan (LRTP); and

WHEREAS, These population, households and employment control totals are an integral part of developing traffic and social-economic forecasts for the Region, out to 2050; and

WHEREAS, the population, households and employment control totals and the methodology used to disaggregating the total into the TAZ level for the 2024-2050 LRTP Update; and

NOW, THEREFORE, BE IT RESOLVED THAT, the Coordinating Committee of the Continuing Comprehensive Land Use and Transportation Program for Richland County:

Endorses the base year (2025) and future years'(2030, 2040 & 2050) social-economic data and related population, household and employment control totals for use in the 2025-2050 Long Range Transportation Plan as identified.

Certification:
The foregoing resolution was approved by the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission at its regular meeting held on August 28, 2024.

By: Attest:

_____   _____
Deanna West-Torrence   Date   Jotika Shetty   Date
President   Executive Director/Secretary

RESOLUTION 24 - 21
OF THE COORDINATING COMMITTEE OF THE CONTINUING COMPREHENSIVE LAND-USE AND TRANSPORTATION PROGRAM FOR RICHLAND COUNTY, OHIO

A RESOLUTION AMENDING THE
FY2024 – FY2027 TRANSPORTATION IMPROVEMENT PROGRAM

WHEREAS, the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission who is designated as the Metropolitan Planning Organization (MPO) for the Mansfield urbanized area by the Governor acting through the Ohio Department of Transportation (ODOT) in cooperation with locally elected officials of Richland County; and

WHEREAS, the MPO has prepared and approved a Transportation Improvement Program for Fiscal Years 2024 – 2027 and found this project is consistent with the approved Long Range Transportation Plan, DIRECTION *Looking Forward 2045.*

WHEREAS, the Federal Transit Administration Urbanized Area Grant makes the federal resources available to public transportation agencies for transit investments including operating assistance, preventive maintenance, transit operator planning, short range planning, and ADA service in the urbanized areas.

WHEREAS, Richland County Transit Board has been awarded a $150,000 planning grant for implementing the urban transit planning program for a period 8/1/2024-7/31/2025 and requested an amendment to reflect this change by adding the project PID 122098 in fiscal years 2024-2027 TIP:

PID: 122098 RCTB FY2025 Transit Projects

Transit Program/Grant – Transit Subaward

SAC	Type	Billing Fund	%	Amount
ALI 441-80/44.22.00/General Development/Comprehensive Planning FY2025				
FTAD	Fed Transit Funds	5307	100	$ 150,000
LNTP	Local Match	LNTP	0	$ 0.00

NOW, THEREFORE, BE IT RESOLVED THAT, the Coordinating Committee of the Continuing Comprehensive Land Use and Transportation Program for Richland County:

Adopts this Amendment to the Transportation Improvement Program for fiscal years 2024 – 2027 that recommends Adjustments of this Activity Line Item to add PID: 122098 RCTB FY2025 Transit Projects

Certification:
The foregoing resolution was approved by the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission through the Executive Committee at its meeting held on August 28, 2024.

By: Attest:

_____   _____
Adam Gove   Date   Jotika Shetty   Date
Vice President   Executive Director/Secretary

RESOLUTION 24-22
OF THE COORDINATING COMMITTEE OF THE CONTINUING COMPREHENSIVE
LAND-USE AND TRANSPORTATION PROGRAM FOR RICHLAND COUNTY, OHIO

A RESOLUTION AMENDING THE
FY2024 – FY2027 TRANSPORTATION IMPROVEMENT PROGRAM

WHEREAS, the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission who is designated as the Metropolitan Planning Organization (MPO) for the Mansfield urbanized area by the Governor acting through the Ohio Department of Transportation (ODOT) in cooperation with locally elected officials of Richland County; and

WHEREAS, the RCRPC has prepared and approved a Transportation Improvement Program for Fiscal Years 2024 – 2027 and found this project is consistent with the approved Long Range Transportation Plan, DIRECTION *Looking Forward 2045.*

WHEREAS, City of Mansfield is sponsoring a planning phase study project.

WHEREAS, MPO RCRPC has adopted the following project of planning phase study in its FY 2025 annual UPWP and requested an amendment to the FY24-27 TIP to reflect the following:

PID: 121689 RIC RCRPC SR13 Corridor & Railroad Crossing Safety Study

Event	SAC	Amount	Type	Fiscal Year
44-Other	4TD7/R103	*$199,652.93*	Federal	2025
44-Other	LNTP	*$49,913.23*	State	2025

NOW, THEREFORE, BE IT RESOLVED THAT, the Coordinating Committee of the Continuing Comprehensive Land Use and Transportation Program for Richland County:

Adopts this Amendment to the Transportation Improvement Program for fiscal years 2024 – 2027 that recommends planning phase study of PID: 121689 – SR13 Corridor & Railroad Crossing Safety Study

Certification:
The foregoing resolution was approved by the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission at its regular meeting held on August 28, 2024.

By: Attest:

_____   _____
Adam Gove   Date   Jotika Shetty   Date
President   Executive Director/Secretary

RESOLUTION 24-23
OF THE COORDINATING COMMITTEE OF THE CONTINUING COMPREHENSIVE
LAND-USE AND TRANSPORTATION PROGRAM FOR RICHLAND COUNTY, OHIO

A RESOLUTION AMENDING THE
FY2024 – FY2027 TRANSPORTATION IMPROVEMENT PROGRAM

WHEREAS, the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission who is designated as the Metropolitan Planning Organization (MPO) for the Mansfield urbanized area by the Governor acting through the Ohio Department of Transportation (ODOT) in cooperation with locally elected officials of Richland County; and

WHEREAS, the MPO has prepared and approved a Transportation Improvement Program for Fiscal Years 2024 – 2027 and found this project is consistent with the approved Long Range Transportation Plan, DIRECTION *Looking Forward 2045.*

WHEREAS, the project of culvert replacement at RIC – 42-3.22 PID 113284, which included RIC-42-3.22, plus RIC-42-0.41 and RIC-545-2.36, moves to PID 121168 as a one separate project and adjust CO phase to FY2026.

WHEREAS, RCRPC requested an amendment to the FY24-27 TIP to reflect the following

PID: 121168 RIC-42 -3.22 culvert replacements (Lexington)

Event	SAC	Amount	Type	Fiscal Year
CO	4TA7	*$169,600*	Federal	2026
CO	4BG7	*$42.400*	Local	2026

NOW, THEREFORE, BE IT RESOLVED THAT, the Coordinating Committee of the Continuing Comprehensive Land Use and Transportation Program for Richland County:

Adopts this Amendment to the Transportation Improvement Program for fiscal years 2024 – 2027 that recommends move PID 113284 RIC 42/545 to PID 121168 RIC 42 and adjust CO phase to FY2026.

Certification:
The foregoing resolution was approved by the Coordinating Committee of the Continuing Comprehensive Land-Use and Transportation Program of the Richland County Regional Planning Commission at its regular meeting held on August 28, 2024.
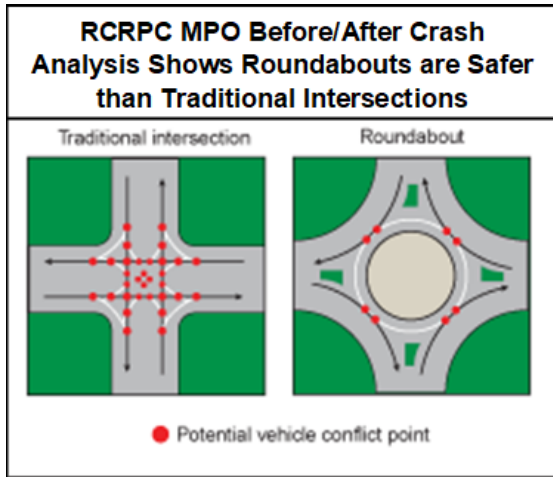
By: Attest:

_____   _____
Adam Gove   Date   Jotika Shetty   Date
President   Executive Director/Secretary

Before/After Traffic Crash Analysis of Existing Roundabouts within RCRPC MPO Region

RCRPC MPO Before/After Crash Analysis Shows Roundabouts are Safer than Traditional Intersections

Traditional intersection | Roundabout

● Potential vehicle conflict point

RCRPC MPO has recently conducted a Before/After analysis of the roundabouts at both Straub Rd. & Middle-Bellville Rd. and E Cook Rd. & Mansfield-Lucas Rd., the only two roundabouts in our Region. The results from the before/after analysis indicates that there has been a significant reduction in total crashes and injury related crashes at both intersections after the roundabout installations. These reductions have not only saved lives but also resulted in substantial cost savings to society.

The cost saving calculation indicates that the investment in building both roundabouts in 2012 (Straub Rd. & Middle- Bellville Rd.) or 2022 (E Cook Rd/ Mansfield-Lucas Rd.) have clearly paid off in terms of both saving lives and money for the community even though only 2020-2023 four years crashes reduction was used in the monetary value calculation for Straub Rd/Middle-Bellville or one year crashes reduction was used in the monetary value calculation.

The decrease in crashes translates to lower property damage, reduced medical bills, and decreased overall impact on individuals' time and resources. This success is a testament to the effectiveness of roundabouts in improving traffic safety and reducing accidents at busy intersections.

Visit us at:
www.rcrpc.org/copy-of-read-up
Scan the QR code with your smart phone to Access our website.

Richland County Regional Planning
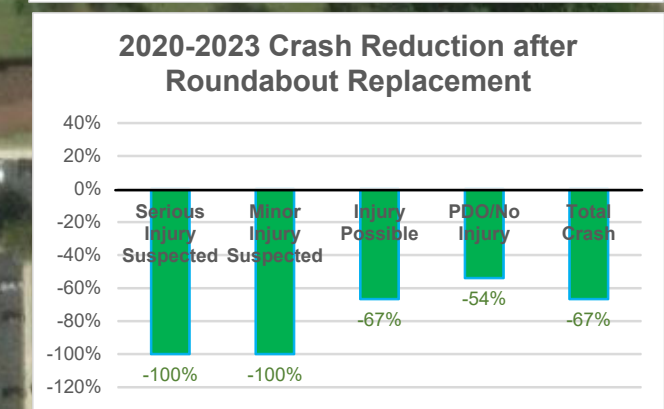
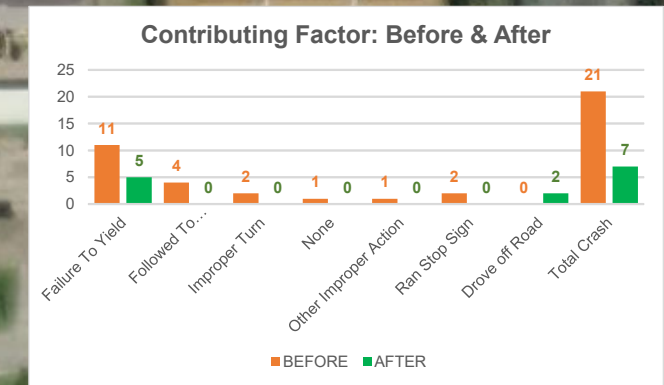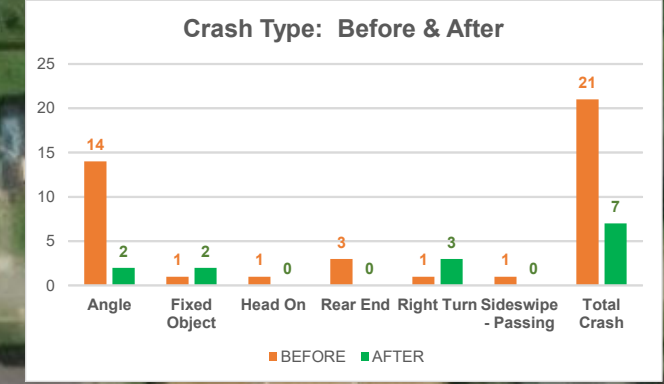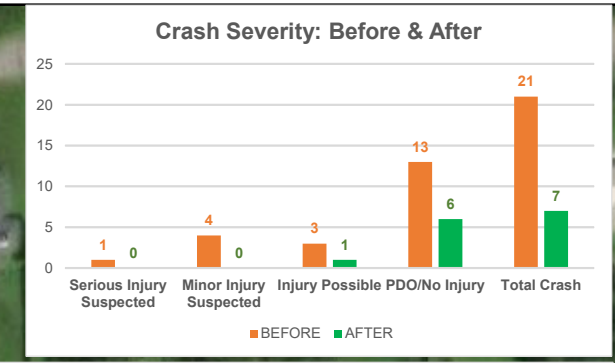19 North Main St
Mansfield, Ohio 44902

RICHLAND COUNTY
REGIONAL PLANNING

BEFORE

AFTER

Multiple Crashes at the same spot

Legend
- 🔴 Serious Injury
- 🔺 Minor Injury
- 🔺 Injury Possible
- 🔵 Property Damage Only Crash

0 75 150 Feet

Before and After Analysis for Traffic Crash at Intersection Straub Rd. / Middle-Bellville Rd.

Stratified Traffic Crashes	Before: 2008 - 2011	After: 2020 - 2023

Traffic Crash Stratified by Severity

CRASH SEVERITY	BEFORE		AFTER	
	Total	%	Total	Crash Reduction
Serious Injury Suspected	1	5%	0	-100%
Minor Injury Suspected	4	19%	0	-100%
Injury Possible	3	14%	1	-67%
PDO/No Injury	13	62%	6	-54%
Total Crash	21	100%	7	-67%

Traffic Crash Stratified by Crash Type

CRASH TYPE	BEFORE		AFTER	
	Total	%	Total	Crash Reduction
Angle	14	67%	2	-86%
Fixed Object	1	5%	2	100%
Head On	1	5%	0	-100%
Rear End	3	14%	0	-100%
Right Turn	1	5%	3	200%
Sideswipe - Passing	1	5%	0	-100%
Total Crash	21	100%	7	-67%

Traffic Crash Stratified by Contributing Factor

CONTRIBUTING FACTOR	BEFORE		AFTER	
	Total	%	Total	Crash Reduction
Failure To Yield	11	52%	5	-55%
Followed To Closely/ACDA	4	19%	0	-100%
Improper Turn	2	10%	0	-100%
None	1	5%	0	-100%
Other Improper Action	1	5%	0	-100%
Ran Stop Sign	2	10%	0	-100%
Drove off Road	0	0%	2	100%
Total Crash	21	100%	7	-67%

Crash Severity: Before & After

Crash Type: Before & After

Contributing Factor: Before & After

2020-2023 Crash Reduction after Roundabout Replacement

The Before/After analysis of the roundabouts at both Straub Rd. & Middle-Bellville Rd. and E Cook Rd. & Mansfield-Lucas Rd., the only two roundabouts in our region, indicates that there has been a significant reduction in total crashes and injury related crashes at both intersections after the roundabout installations.

The analysis of the four-year crashes from 2020-2023 compared to the same location in the four years period from 2008-2011, when the roundabout had not yet been built, reveals that 67% of total crashes, 100% serious and minor injury crashes, 67% injury possible crashes and 54% property damage only crashes have been reduced since the roundabout installation in 2012. These reductions have not only saved lives but also resulted in substantial cost savings to society.

The cost saving calculation table on right indicates that the investment ($1,500,000 construction in 2012 equals 2023's value $ 2,309,181 with 4% annual inflation) in building the roundabout in 2012 at intersection Straub Rd. & Middle- Bellville Rd. has clearly paid off in terms of both saving lives and money for the community even though only 2020-2023 four years crashes reduction was used in the monetary value calculation.

The decrease in crashes translates to lower property damage, reduced medical bills, and decreased overall impact on individuals' time and resources. This success is a testament to the effectiveness of roundabouts in improving traffic safety and reducing accidents at busy intersections.

CRASH SEVERITY	NSC Ave. Crash Cost	Before: 2008 - 2011		After: 2020 - 2023		
		Crashes	Crash Costs	Crashes	Crash Costs	Cost Savings
Fatal	$13,111,000	0	$ -	0	$ -	$ -
Serious	$1,066,000	1	$ 1,066,000	0	$ -	$(1,066,000)
Minor	$232,000	4	$ 928,000	0	$ -	$ (928,000)
Possible	$126,000	3	$ 378,000	1	$ 126,000	$ (252,000)
PDO	$17,500	13	$ 227,500	6	$ 105,000	$ (122,500)
TOTAL CRASH		21	$ 2,599,500	7	$ 231,000	$(2,368,500)

Note: **1.** The construction cost for this roundabout replacement was about $1.5 million in 2012. With 4% annual inflation, the 2023 dollor value for the amount of 2012 is $2,309,181. **2.** Source for Average Comprehensive Crash Cost by crash severity: the National Safety Council (NSC) Injury Facts 2022

BEFORE

AFTER

Traffic Crash Stratified by Severity

CRASH SEVERITY	BEFORE			AFTER	
	2017-2019 Total	Ave. Per Year	%	2023	Crash Reduction
Serious Injury	2	0.7	9%	0	-100%
Minor Injury	7	2.3	30%	0	-100%
Injury Possible	1	0.3	4%	0	-100%
PDO/No Injury	13	4.3	57%	3	-31%
Total Crash	23	7.7	100%	3	-61%

Traffic Crash Stratified by Crash Type

CRASH TYPE	BEFORE			AFTER	
	2017-2019 Total	Ave. Per Year	%	2023	Crash Reduction
Angle	11	3.7	48%	0	-100%
Animal	3	1.0	13%	0	-100%
Fixed Object	2	0.7	9%	3	350%
Left Turn	3	1.0	13%	0	-100%
Rear End	2	0.7	9%	0	-100%
Right Turn	1	0.3	4%	0	-100%
Sideswipe - Passing	1	0.3	4%	0	-100%
Total Crash	23	7.7	100%	3	-61%

Traffic Crash Stratified by Contributing Factor

CONTRIBUTING FACTOR	BEFORE			AFTER	
	2017-2019 Total	Ave. Per Year	%	2023	Crash Reduction
Drove off Road	0	0	0%	2	100%
Failure to Yield	15	5.0	65%	0	-100%
Following Too Closely/ACDA	2	0.7	9%	0	-100%
None	4	1.3	17%	0	-100%
Ran Stop Sign	1	0.3	4%	0	-100%
Unsafe Speed	1	0.3	4%	1	200%
Total Crash	23	7.7	100%	3	-61%

Crash Sverity Stratified by Alcohol or Drug

CRASH SEVERITY	Alcohol Related	Drug Related	BEFORE			AFTER	
			2017-2019 Total	Ave. Per Year	%	2023	Crash Reduction
Serious Injury Suspected	No	No	2	0.7	9%	0	-100%
Minor Injury Suspected	No	No	7	2.3	30%	0	-100%
Injury Possible	No	No	1	0.3	4%	0	-100%
PDO/No Injury	No	No	12	4.0		2	
	Yes	No	0	0.0		1	
	No	Yes	1	0.3		0	
POD/No Injury Sub-Total			13	4.3	57%	3	-31%
Total Crash			23	7.7	100%	3	-61%

R = 180 ft.

Crashes overlaps at the same spot

Before vs. After: Crash Severity

Before vs. After: Crash Type

Before vs. After: Contributing Factor

2023 Crash Reduction after Roundabout Replacement

Legend

▲ Serious Injury
▲ Minor Injury
▲ Injury Possible
● Property Damage Only Crash

The Before/After analysis of the roundabouts at both E Cook Rd. & Mansfield-Lucas Rd. and Straub Rd. & Middle-Bellville Rd. , the only two roundabouts in our region, indicates that there has been a significant reduction in total crashes and injury related crashes at both intersections after the roundabout installations.

The analysis of the 2023 crash data at Cook Rd. & Mansfield-Lucas Rd. intersection indicated a 61% reduction in all crashes, and 100% drop in serious injury, minor injury and possible injury crashes after roundabout installation. There has been a 30% drop in Property Damage Only crashes, as well. These reductions have not only saved lives but also resulted in substantial cost savings to society.

The cost saving calculation table on right indicates that the investment ($1,219,720.4) in building the roundabout in 2022 at intersection Cook Rd. & Mansfield-Lucas Rd. has clearly paid off in terms of both saving lives and money for the community.

The decrease in crashes translates to lower property damage, reduced medical bills, and decreased overall impact on individuals' time and resources. This success is a testament to the effectiveness of roundabouts in improving traffic safety and reducing accidents at busy intersections.
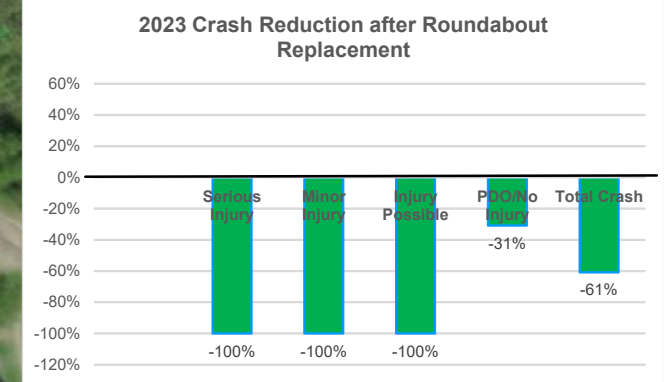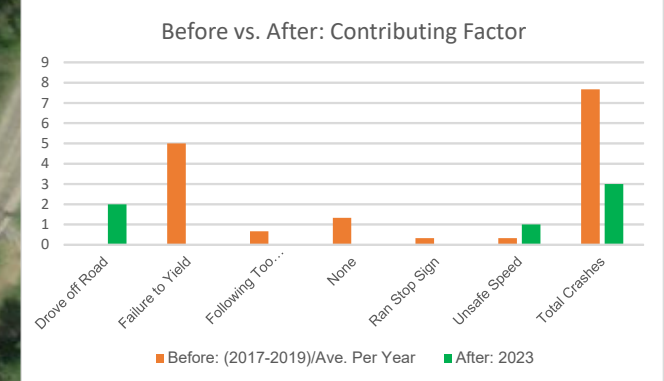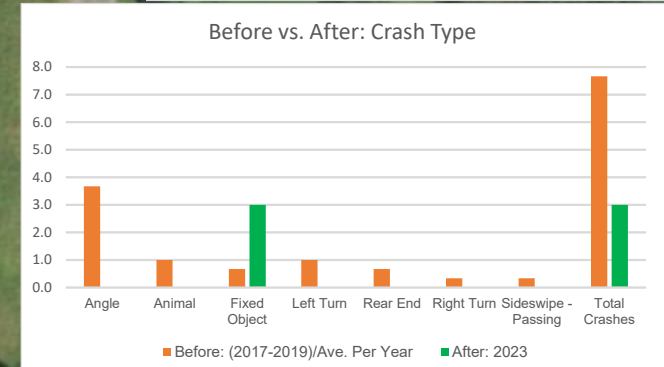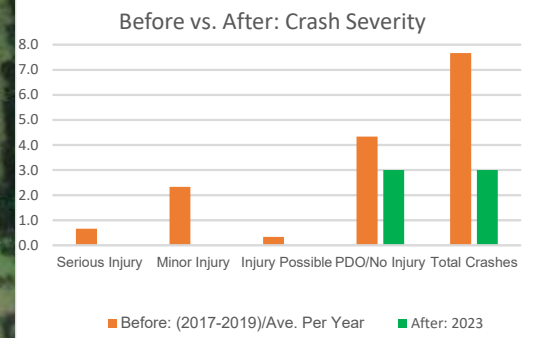
CRASH SEVERITY	NSC Ave. Crash Cost (2022)	Before: 2017 - 2019			After: 2023		
		Crashes	Three-Yr Crash Costs	Ave. Per Yr. Crash Cost	Crashes	Crash Costs	Crash Drops & Cost Savings
Fatal	$13,111,000	0	$ -	$ -	0	$ -	$ -
Serious	$1,066,000	2	$ 2,132,000	$ 710,667	0	$ -	$ (710,667)
Minor	$232,000	7	$ 1,624,000	$ 541,333	0	$ -	$ (541,333)
Possible	$126,000	1	$ 126,000	$ 42,000	0	$ -	$ (42,000)
PDO	$17,500	13	$ 227,500	$ 75,833	3	$ 52,500	$ (23,333)
TOTAL CRASH		23	$4,109,500	$1,369,833.33	3	$ 52,500	$ (1,317,333)

Note: 1. The construction cost for this roundabout replacement was $1,219,720.4 in 2022. Because the historical high crash intersection, the crash reduction (after) in 2023 has paid off in terms of both saving lives and saving money fo the community.

2. Source for Average Comprehensive Crash Cost by crash severity: the National Safety Council (NSC) Injury Facts 2022

RICHLAND COUNTY REGIONAL PLANNING

Before and After Traffic Crash Analysis for the Existing Roundabout

E Cook Rd. & Mansfield Lucas Rd
(Before: 2017-2019 /Average Vs. After: 2023)

The survey included four steps to gather feedback on transportation needs for the MPO Region from the public

Step 1 – What is Important to You

- Reduce crashes
- Improve bicycle and pedestrian connections
- Reduce Traffic Bottlenecks
- Maintain and repair roads and bridges
- Extend or add lanes to major roads
- Improve freight routing around our community efficiently and reduce conflicts with other traffic
- Improve existing public transportation service

Step 2. Investment / Budget Priorities

- The survey participants were asked to allocate a total of symbolistic $100 funds to the same improvement concepts included in Step 1.

Step 3. Top Project Needs by Dropping a Pin at Locations by Improvement Category

- In this Step, participants could drop markers to a map to show locations where they think there are transportation issues or needs. They also had the option to add a comment, should they desire.

Step 4 – Final Questions

- The last step of the survey asked additional questions regarding the participants' personal information and their opinions on how the existing transportation system supports their daily activities.

RICHLAND COUNTY REGIONAL PLANNING

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2025-2050 LRTP: Transportation Needs Survey & Public Input Review

The survey included four steps to gather feedback on transportation needs for the MPO Region from the public

Scatter plot by category

Category
- 🟢 Bike/Ped
- 🔵 Congestion
- 🟠 Maintenance
- 🔴 Other
- 🔵 Public Transit
- 🟢 Safety
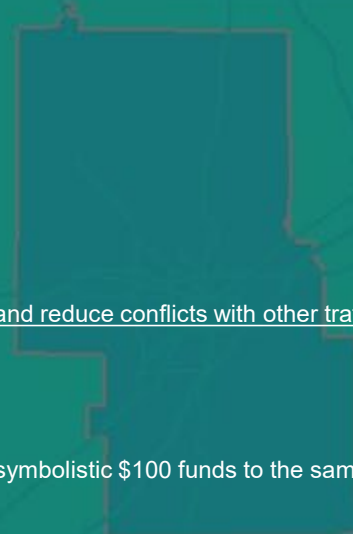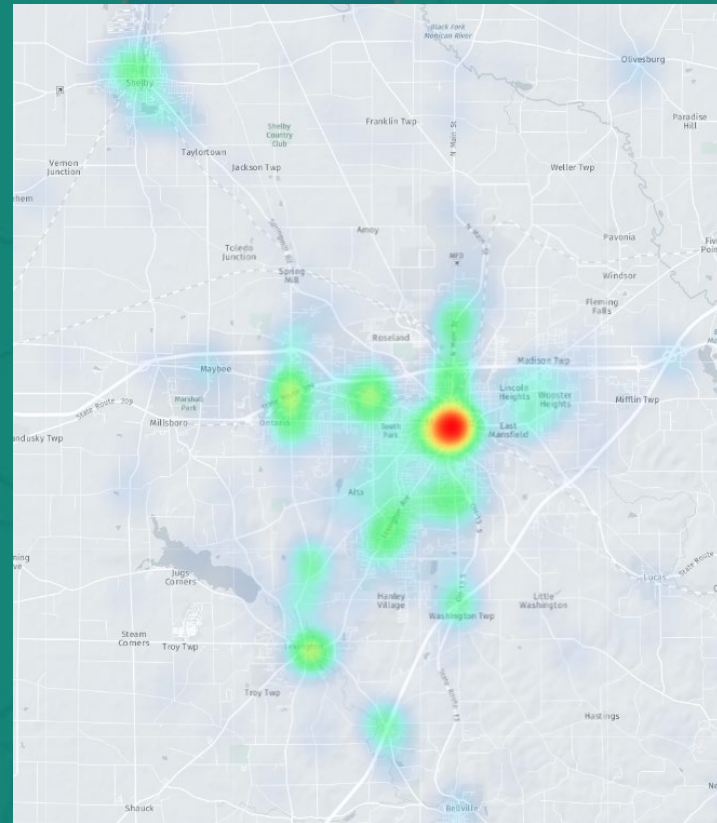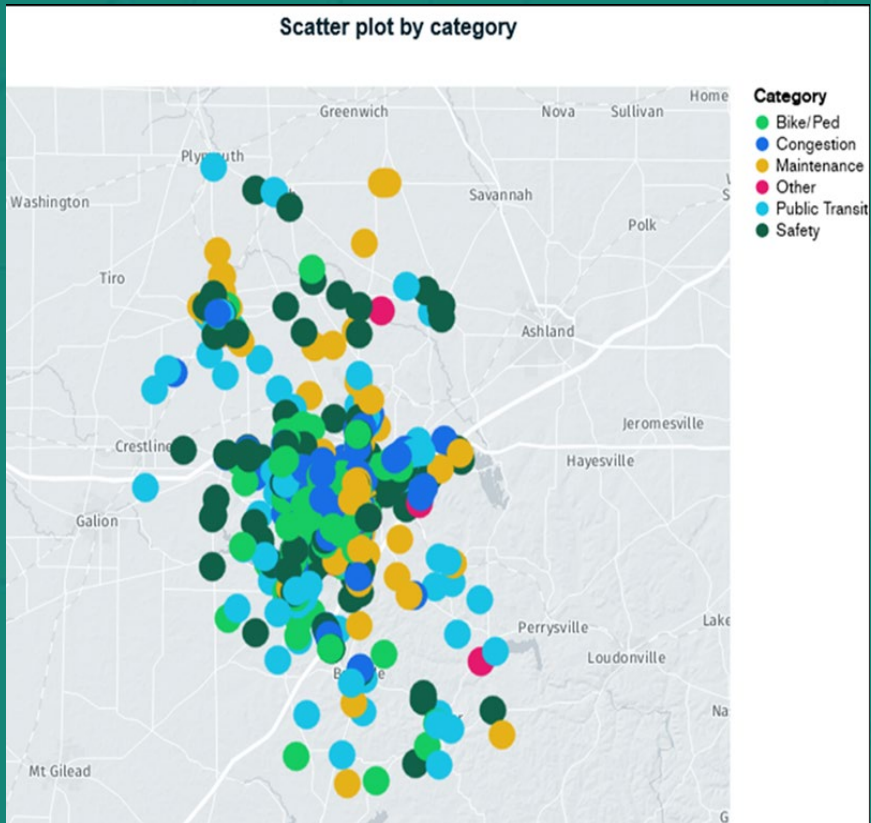
- Conducted the online public survey for the input of regional transportation improvement needs. The survey was open from 4/1/2024 - 6/30/2024.

- In the three-month survey, a total of 771 location-based comments for potential needs of transportation improvements were received. 145 people from the region made their survey submissions.

- The survey included four steps to gather feedback on transportation needs for the MPO Region from the public

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The survey included four steps to gather feedback on transportation needs for the MPO Region from the public
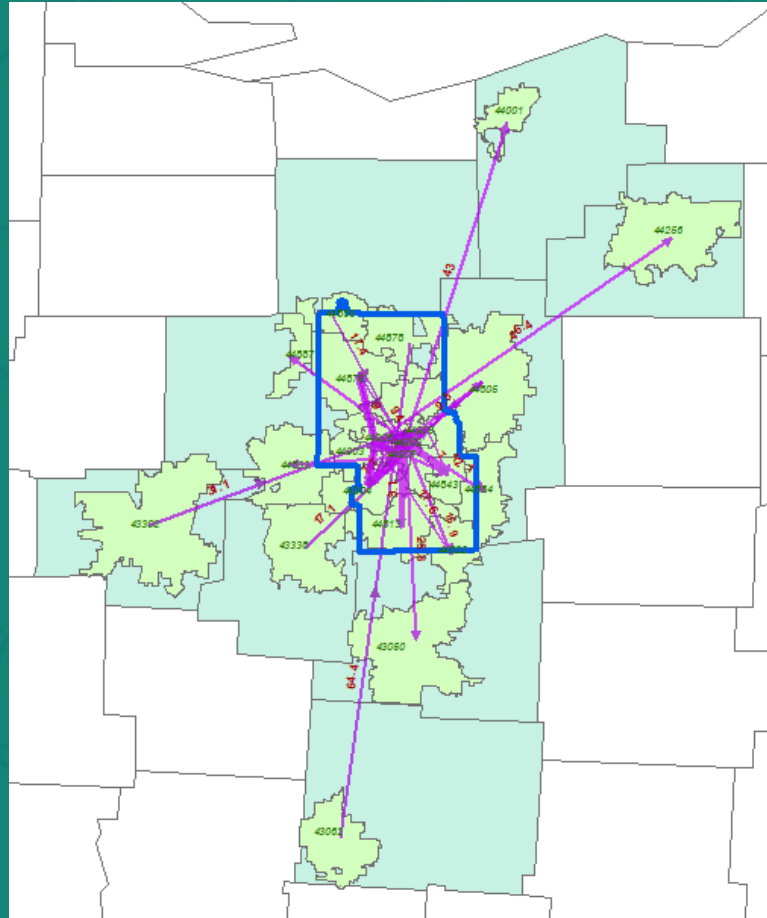
ID	Zip Code	City	County	State
1	44813	Bellville	Richland	Ohio
2	44822	Butler	Richland	Ohio
3	44843	Lucas	Richland	Ohio
4	44875	Shelby	Richland	Ohio
5	44878	Shiloh	Richland	Ohio
6	44902	Mansfield	Richland	Ohio
7	44903	Mansfield	Richland	Ohio
8	44904	Mansfield/Lexington	Richland	Ohio
9	44905	Mansfield	Richland	Ohio
10	44906	Mansfield	Richland	Ohio
11	44907	Mansfield	Richland	Ohio
12	44865	Plymouth	Huron/Richland	Ohio
13	43050	Mount Vernon	Knox	Ohio
14	43062	Pataskala	Licking	Ohio
15	43302	Marion	Marion	Ohio
16	43338	Mount Gilead	Morrow	Ohio
17	44001	Amherst	Lorain	Ohio
18	44256	Medina	Medina	Ohio
19	44805	Ashland	Ashland	Ohio
20	44833	Galion	Crawford	Ohio
21	44864	Perrysville	Ashland	Ohio
22	44887	Tiro	Crawford	Ohio
23	30144	Kennesaw	Cobb	Georgia

We have people who participated in the survey and responded the OD questions from all 11 zip-code areas of Richland County, we also received responses from those who live outside of our region

- Survey participants came from all MPO region's 11 zip codes areas. Some participants who work in Richland County but live in the other counties also participated in the online survey.

- The responses regarding question of the job related commute (Origin-Destination Trips) indicate these areas (counties) are locations where people comes from or goes to for their daily jobs.
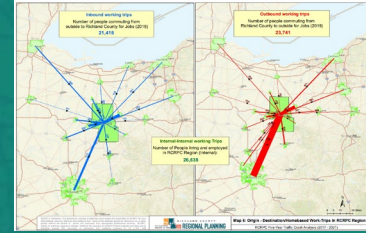
The survey included four steps to gather feedback on transportation needs for the MPO Region from the public

Step1: What is important to you?

- **Reduce crashes** (Make dangerous roads safer by implementing treatments that have been proven effective in reducing crashes.)
- **Improve bicycle and pedestrian connections** (Create walking and biking paths that are separate from roads or lanes for vehicles.)
- **Reduce Traffic Bottlenecks** (Add turn lanes, roundabouts, and advanced traffic technologies to reduce traffic congestion and prevent bottlenecks.)
- **Maintain and repair roads and bridges** (Fix and maintain existing roads and bridges and prevent major roads from severe flooding. Focus on maintenance in areas that have fallen into disrepair)
- **Extend or add lanes to major roads** (Make major roads wider or otherwise add capacity to handle more traffic.)
- **Improve freight routing around our community efficiently and reduce conflicts with other traffic** (Designate new truck routes aligned with local land uses, targeted road widening, bridge improvements and intersection upgrades at railroad crossing, etc.)
- **Improve existing public transportation service** (Expand bus services to connect more people, jobs, and destinations.)

Step 1: What is important to you?

Options on Transportation Improvement Strategy	Participants's Votes on "What is important to you"						
	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7
Reduce crashes	40%	20%	15%	10%	8%	6%	1%
Improve bicycle and pedestrian connections	10%	21%	19%	13%	10%	16%	11%
Reduce Traffic Bottlenecks	4%	14%	27%	23%	21%	6%	4%
Maintain and repair roads and bridges	30%	26%	12%	20%	8%	3%	1%
Extend or add lanes to major roads	3%	5%	10%	13%	32%	23%	13%
Improve freight routing around our community efficiently and reduce conflicts with other traffic	2%	3%	11%	8%	14%	33%	28%
Improve existing public transportation service	10%	10%	6%	12%	8%	12%	42%
Total	100%	100%	100%	100%	100%	100%	100%

The table above summarizes votes for each option.

- 40% participants selected "Reduce Crashes" as their 1st priority.   And among all participants,

- 26% gave the second priority to "Maintain and repair roads and bridges"…….

RICHLAND COUNTY REGIONAL PLANNING

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The survey included four steps to gather feedback on transportation needs for the MPO Region from the public

Step 2. Budget Priorities

The survey participants were asked to allocate a total of symbolistic $100 funds to the same improvement concepts included in Step 1. The table below displays the average budget allocated for each improvement.

Step2: Allocate a total of symbolistic $100 to the save improvement concepts in Step1		
Investmnet Priority for the Region	**Average Allocation ($)**	**Percentage**
Reduce crashes	$17.31	17%
Improve bicycle and pedestrian connections	$12.76	13%
Reduce Traffic Bottlenecks	$9.86	10%
Maintain and repair roads and bridges	$29.24	29%
Extend or add lanes to major roads	$7.45	7%
Improve freight routing	$7.79	8%
Improve existing public transportation service	$15.59	16%
Total	**$100.00**	**100%**

Following three categories received Top Allocation:

- Maintain and Repair Roads and Bridges

- Reduce Crashes,

- Improve Existing Public Transportation Service

RICHLAND COUNTY REGIONAL PLANNING

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2025-2050 LRTP: Transportation Needs Survey & Public Input Review

Step 3. Top Project Needs by Location

In this Q's, participants could drop markers to a map to show locations where they think there are transportation issues or needs. They also had the option to add a comment, should they desire. The figure below shows the number of comments by category.

Q3: Top Project Needs by Location

Project Catagery	Count	Pecentage
Safety	190	25%
Bike/Ped	186	24%
Congestion	157	20%
Maintenance	120	16%
Public Transit	96	12%
Other	22	3%
Total	**771**	**100%**

- Safety related improvements received the most concerns for the region, and followed by: Bike/Ped and Congestion
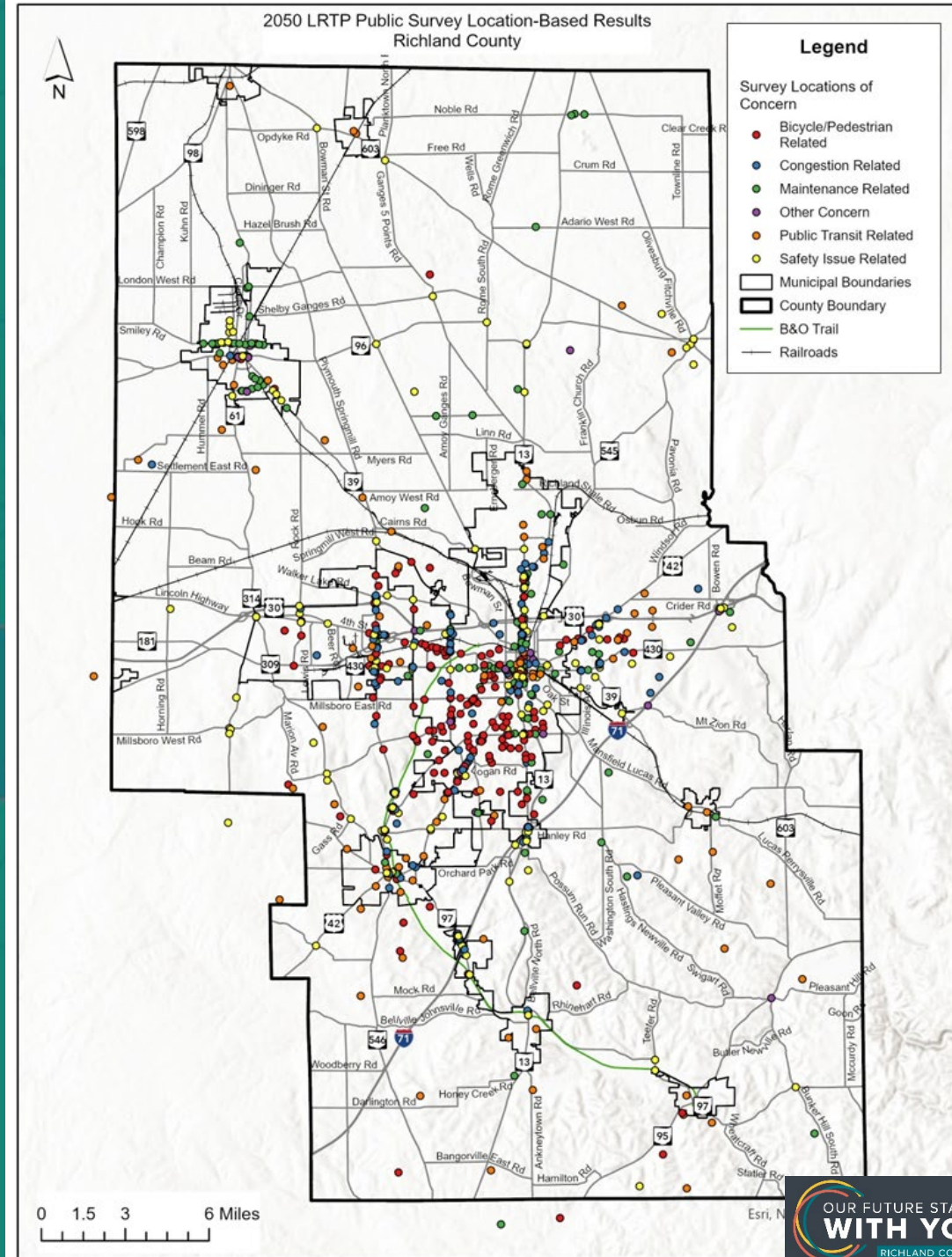
2050 LRTP Public Survey Location-Based Results
Richland County

Legend

Survey Locations of Concern
- Bicycle/Pedestrian Related
- Congestion Related
- Maintenance Related
- Other Concern
- Public Transit Related
- Safety Issue Related
- Municipal Boundaries
- County Boundary
- B&O Trail
- Railroads

The survey included four steps to gather feedback on transportation needs for the MPO Region from the public

Step 4 – Final Questions

The last step of the survey asked additional questions regarding the participants' personal information and their opinions on how the existing transportation system supports their daily activities (see tables below).

Access to Public Transit

Rating	Count	Percentage
1 (Terrible)	36	28%
2 (Poor)	26	20%
3 (OK)	41	32%
4 (Good)	11	9%
5 (Excellent)	14	11%
Total	128	100%

Access to Walking and Biking Facilities

Rating	Count	Percentage
1 (Terrible)	18	13%
2 (Poor)	21	16%
3 (OK)	56	41%
4 (Good)	23	17%
5 (Excellent)	17	13%
Total	135	100%

Ability to conduct travel for Work or School

Rating	Count	Percentage
1 (Terrible)	7	5%
2 (Poor)	3	2%
3 (OK)	25	18%
4 (Good)	44	32%
5 (Excellent)	58	42%
Total	137	100%

Ability to conduct travel with multiple destinations (errands, childcare, etc.)

Rating	Count	Percentage
1 (Terrible)	3	2%
2 (Poor)	7	5%
3 (OK)	34	25%
4 (Good)	45	33%
5 (Excellent)	48	35%
Total	137	100%

Ability to conduct travel for Shopping and Personal Services

Rating	Count	Percentage
1 (Terrible)	3	2%
2 (Poor)	7	5%
3 (OK)	38	27%
4 (Good)	48	35%
5 (Excellent)	43	31%
Total	139	100%

Ability to conduct travel for Medical Care

Rating	Count	Percentage
1 (Terrible)	4	3%
2 (Poor)	8	6%
3 (OK)	33	24%
4 (Good)	44	31%
5 (Excellent)	51	36%
Total	140	100%

Ability to conduct travel for Recreation

Rating	Count	Percentage
1 (Terrible)	5	4%
2 (Poor)	8	6%
3 (OK)	41	29%
4 (Good)	49	35%
5 (Excellent)	36	26%
Total	139	100%

RICHLAND COUNTY REGIONAL PLANNING

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The survey included four steps to gather feedback on transportation needs for the MPO Region from the public

Step 4 – Final Questions - Continue

Distribution of ages of the survey participants.		
Age Range	Count	Percentage
18-24	3	2%
25-34	16	11%
35-44	26	18%
45-54	32	22%
55-64	32	22%
65-74	23	16%
75+	7	5%
Did not disclose	6	4%
Total	145	100%

Age Range of All Respondents
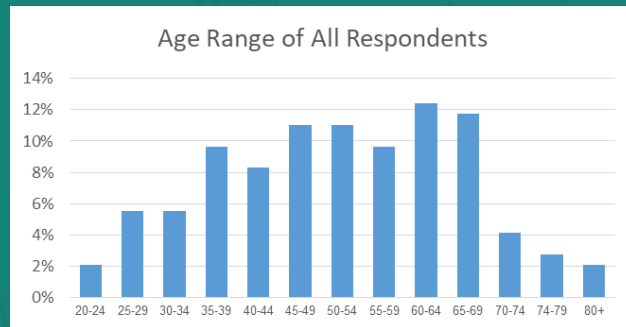
Transportation Modes Used for Work		
Transportation mode	Count	Percentage
Bus	4	3%
Drive yourself	117	85%
Drive yourself, bike	4	3%
Drive yourself, bike, walk	1	1%
Drive yourself, bus	1	1%
Drive yourself, Get a ride from others/carpool	3	2%
Drive yourself, walk	4	3%
Get a ride from others/carpool	3	2%
Walk	1	1%
Total	138	100%

RICHLAND COUNTY REGIONAL PLANNING

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2025-2050 LRTP: Transportation Needs Survey & Public Input Review

The survey included four steps to gather feedback on transportation needs for the MPO Region from the public

- Public Feedback on Safety Improvement Locations from the Survey are Very Close to the Highest Crash Locations Identified by MPO Crash Analysis using ODOT Criteria

- Public Feedback on Sidewalk/Pedestrian Improvement Locations from the Survey are Very Close to the MPO Identified the Sidewalk Locations at Poor Condition. and

- All others to be Provided Soon……

- Map of Safety Improvement Locations – Next page

Survey Results / Location of Safety Concern vs. MPO Highest Crash Locations by ODOT Criteria

(Intersection at Least 15 Crashes and Minimum 30% of Fatal & Injury Crash Rate)

Analysis for Projects of TIP & 2025-2050 LRTP

Legend

Location of Safety Concerns by Survey
- ● Input from Survey with Comments
- ▲ Input from Survey w/o Comments

Top Highest-Crash Intersections (ODOT Criteria)
- ● Top 1 - Top 10
- ● Top 11 - Top 20
- ● Top 21 - Top 30

— Interstates
— Freeways & Expressways
— Principal Arterial
— Minor Arterial
— Major Collector
— Minor Collector
— Local
▢ RCRPC/MPO_Boundary_w_Plymoth

0   1.5   3 Miles

2025-2025 LRTP Survey / Public Input - Safety Comments

Safety ID	Category	Comment
S1	Safety	Widen RB turn lane from S Harrington Memorial to Cairns so semi trucks can turn right without having cars back up to give them enough room.
S2	Safety	This road has drain grates that are parallel to the curb which is dangerous for bicyclists.
S3	Safety	This is another great location for a roundabout.
S4	Safety	This is an awkward intersection if heading SR 97 east.
S5	Safety	This is a high accident corner/intersection. Look at options for realigning SR97 to eliminate this sharp corner and intersection.
S6	Safety	This is a great location for a roundabout. I think roundabouts are best for intersections with more than 4 points. Then left turns could be made onto Park Ave from southbound Bowman St. The clinic there would probably have to be relocated though and the
S7	Safety	This intersection is confusing and confusion breeds accidents. Perhaps more obvious signage that can be seen at 55 MPH.
S8	Safety	There should be a crosswalk here and ped heads at the signal. This is very hard to cross.
S9	Safety	The combination of the empty shopping center, "cruising", and general disinvestment along Park Ave has contributed to a growing feeling of lack of safety. There are many residential homes nearby (Lynn Dr., Maple Ln, Parkwood Blvd, etc.) that could likely
S10	Safety	Speeding on Park Ave has historically led to many accidents. More traffic police should be patroling and writing tickets at night.
S11	Safety	Sidewalks on Shelby Ave
S12	Safety	safety on all county roads, buggies, bikes, speed
S13	Safety	Safety issue
S14	Safety	Safety issue
S15	Safety	Safety improvements for B&O Trail crossing at SR 97.
S16	Safety	People turning left across a double yellow into the Bob Evan's parking lot creates a backup/prevents cars from entering the intersection. This should be monitored/ticketed or a barrier should be placed or another light to allow safe turns.
S17	Safety	Northbound SR13 left drop lane needs signed and striped better. Multiple conflicts here daily.
S18	Safety	Motorists and pedestrians on North Park can't see around the corner here. Traffic also speeds through here to make the green light at Park Avenue because the signals are not in sync. The shift of the road should occur south of this intersection. If this
S19	Safety	Just barely out of RC but this intersection I avoid
S20	Safety	Intersection another I avoid when possible
S21	Safety	Increase safety for vehicles entering/crossing Mansfield Ave from George Hawk to Corp Limit
S22	Safety	In the north bound lane of home road where it crosses Park Ave W, people frequently go around cars turning left on the road despite it being a single lane road. This creates a hazard for cars on the opposite side of park ave turning left on a green light
S23	Safety	Improve timing of traffic lights in general (I have already seen improvement on S bound Mulberry and other places). Continue with the good work!
S24	Safety	Also, perform more studies to remove unnecessary traffic lights.
S25	Safety	Given the high volume of traffic, safety everywhere
S26	Safety	Flooding
S27	Safety	Flooding
S28	Safety	Eliminate at grade crossing of the bike trail.
S29	Safety	Dangerous intersection. Need to look at roundabout option.
S30	Safety	Dangerous bike trail crossing SR 13 with minimal site distance.
S31	Safety	Dangerous bike trail crossing on a sharp skew and corner of SR 97.
S32	Safety	B&O Trail safer crossing at SR 13 at the blue bridge.
S33	Safety	B&O Trail Crossing @ SR 97. Improvements or reroute needed for safety reasons.
S33	Safety	Awkward intersection needs realigned.
S34	Safety	Also everywhere. Here's a thought though—I love traffic circles myself but I have observed that almost no one in Mansfield knows how to use one. Maybe traffic circles are not the way to go for this community
S35	Safety	71 and 30 area is a mess.

Thanks

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RICHLAND COUNTY

The Long-Range Transportation Plan will guide auto, bicycle, bus, and pedestrian projects and funding through 2050.

Learn about our plan and share your thoughts about transportation through events below.

PUBLIC SURVEY

ONLINE TODAY

EXISTING CONDITIONS OPEN HOUSES

TUESDAY, JUNE 18, 2024

9 AM - 1 PM
Plymouth Branch Library
29 W Broadway Street
Plymouth, OH 44865

2 PM - 4 PM
Richland County Regional Planning Commission
19 N Main Street
Mansfield, OH 44902

NEEDS PLAN OPEN HOUSES

TUESDAY, AUGUST 13, 2024

2 PM - 4 PM*
Main Branch Library
43 W. Third Street Street
Mansfield, OH 44902

5 PM - 7 PM
Richland County Regional Planning Commission
19 N Main Street
Mansfield, OH 44902

COST-CONTRAINED PROJECT LIST OPEN HOUSES

THURSDAY, OCTOBER 24, 2024

2 PM - 4 PM*
Bellville Branch Library
97 W Bell Street
Bellville, OH 44813

5 PM - 7 PM
Richland County Regional Planning Commission
19 N Main Street
Mansfield, OH 44902

* Location and time details to be confirmed.

For more information and project updates, visit www.rcrpc.org/regional-transportation-plan or contact the project team.

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RICHLAND COUNTY REGIONAL PLANNING

AMERICAN STRUCTUREPOINT INC.

THANK YOU FOR YOUR PARTICIPATION!

Regional Social-Economic Data for 2025 – 2050 Long-Range Transportation Plan Update Summary
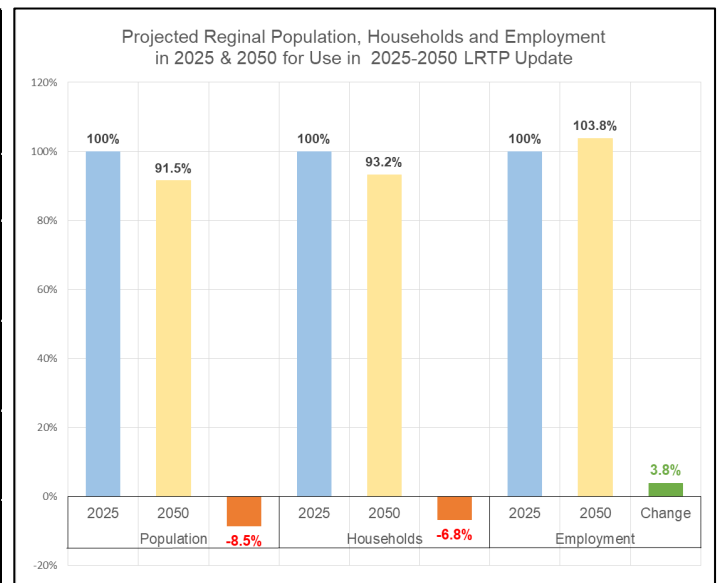
Population Projectios Overview (2020 - 2050)
Comparison of Richland County and the State of Ohio

Age Group	MPO Transportation Study Area / Richland County							Changes (2020-2050)	% Changes (2020-2050)	Ohio							Changes (2020-2050)	% Changes (2020-2050)
	2020	2025	2030	2035	2040	2045	2050			2020	2025	2030	2035	2040	2045	2050		
0to4	7,131	7,629	7,158	6,770	6,519	6,664	6,851	-280	-3.9%	688,843	680,473	680,847	678,569	656,326	646,304	632,167	-56,676	-8.2%
5to9	7,528	8,058	7,912	7,611	7,032	6,942	6,894	-634	-8.4%	716,631	714,478	693,467	703,726	690,445	678,608	657,433	-59,198	-8.3%
10to14	8,076	7,125	8,406	7,641	7,930	6,760	7,226	-850	-10.5%	764,771	696,185	736,235	671,746	724,086	668,208	697,875	-66,896	-8.7%
15to19	7,509	6,459	7,107	7,629	7,596	7,169	6,718	-791	-10.5%	769,843	773,773	735,625	745,317	709,464	732,619	705,263	-64,580	-8.4%
20to24	7,365	6,822	6,010	7,036	7,135	7,521	6,719	-646	-8.8%	745,653	778,472	718,974	743,066	689,866	716,695	678,874	-66,779	-9.0%
25to29	8,205	8,314	6,479	6,503	6,685	7,643	7,167	-1,038	-12.7%	783,299	744,357	734,944	712,675	699,070	683,493	673,623	-109,676	-14.0%
30to34	7,668	8,932	8,811	6,740	6,927	6,920	8,046	378	4.9%	769,691	802,419	789,980	751,131	756,786	715,634	725,803	-43,888	-5.7%
35to39	7,324	8,283	8,942	8,920	6,750	7,021	6,900	-424	-5.8%	740,563	776,164	816,758	792,917	765,172	759,588	728,890	-11,673	-1.6%
40to44	7,560	7,734	8,411	8,991	9,005	6,808	7,103	-457	-6.0%	695,951	739,312	775,745	810,896	790,912	759,473	756,973	61,022	8.8%
45to49	7,377	7,620	7,581	8,229	8,767	8,766	6,632	-745	-10.1%	712,368	690,984	730,227	765,634	798,652	779,527	747,557	35,189	4.9%
50to54	7,617	7,380	7,298	7,327	7,852	8,435	8,325	708	9.3%	743,276	697,899	674,638	712,357	745,156	777,212	757,759	14,483	1.9%
55to59	8,333	7,364	6,992	6,877	6,923	7,381	7,938	-395	-4.7%	812,574	708,021	670,103	640,140	682,581	706,674	743,318	-69,256	-8.5%
60to64	8,616	8,040	6,840	6,569	6,369	6,484	6,818	-1,798	-20.9%	808,265	757,925	661,549	622,022	596,855	633,412	658,539	-149,726	-18.5%
65to69	7,792	7,781	7,388	6,142	6,034	5,698	5,941	-1,851	-23.8%	685,107	730,227	688,025	594,785	562,721	535,599	572,891	-112,216	-16.4%
70to74	6,384	6,718	6,630	6,347	5,203	5,158	4,811	-1,573	-24.6%	543,269	593,087	627,335	594,228	508,771	484,995	457,284	-85,985	-15.8%
75to79	4,329	5,050	5,358	5,245	5,041	4,110	4,090	-239	-5.5%	352,706	431,375	468,622	496,960	468,745	402,824	382,018	29,312	8.3%
80to84	3,065	2,276	3,331	3,216	3,443	3,003	2,683	-382	-12.5%	233,805	212,027	277,723	285,421	318,523	285,794	259,002	25,197	10.8%
85+	3,057	2,459	1,994	2,465	2,517	2,830	2,634	-423	-13.8%	232,833	238,561	213,788	252,529	261,400	300,384	288,627	55,794	24.0%
Total	124,936	124,044	122,648	120,258	117,728	115,313	113,496	-11,440	-9.2%	11,799,448	11,765,739	11,694,767	11,574,119	11,425,531	11,267,043	11,123,896	-675,552	-5.7%

Population Projections Overview: 2020 to 2050 Richland County's population is projected to decline by around 9.2% (11,440) by 2050 and the State of Ohio is projected to decline by 5.7%.

Source: Ohio Department of Developmnet

Population pyramid charts for Richland County 2020, 2030, 2040, 2050 and Ohio 2020, 2030, 2040, 2050

Projections of Population, Households and Employment (2025 - 2050)

Richland County	Summary			
	2025	2050	Change	% Change
Pooulation	124,046	113,492	-10,554	-8.5%
Households	48,165	44,908	-3,257	-6.8%
Employment	65,301	67,783	2,482	3.8%

Projected Reginal Population, Households and Employment in 2025 & 2050 for Use in 2025-2050 LRTP Update

- Population Projections Overview: 2020 to 2050 Richland County's population is projected to decline by around 9.2% (11,440) by 2050.
- Richland County is getting older
- Employment in medical related services are increase

A means of disaggregating Ohio DSA (county population) and Ohio Statewide Model (large zone employment by industry and households) to MPO model zones for Richland and adjacent counties. (scg, 8-1-2024)

In lieu of locally-developed forecasts of future land use (employment and population) at zone level, described here are a means by which future (Year 2050) forecasts developed for statewide modeling and other planning purposes for larger geographic areas were disaggregated to smaller zones used for detailed traffic assignment in the MPO (RCRPC) travel demand model.

Attachment A contains the latest round of county-level population forecasts by 5-year increments from Years 2020 to 2050, by 5-year age and sex cohorts, developed by the Ohio Development Services Agency (DSA). These effectively serve as constraints on forecasts developed by any other means, to provide consistency across the state of Ohio for statewide planning purposes. (The forecasted change in population ages 5-19 is also utilized to provide scaled re-estimating of change in school enrollment – which is forecast directly in the MPO model due to its more concentrated time of day impact than most other travel.)

Attachment B contains a mapped summary of the latest round of land use forecasts by year developed within the Ohio statewide model process, with considerable breakout by category for both households and employment, along with some background on how these forecasts were derived. Sources for this data are the U.S. Census for population and households, and quarterly wage data adjusted to summaries provided by the U.S. Bureau of Economic Analysis (BEA Interactive Data Application)

Last, Attachment C contains the translation and geographic disaggregation of these forecasts from A and B, with focus on absolute not percent change, which includes considerable aggregation of household and industry categories, based on the MPO-level modeling needs. (While not directly used in the MPO modeling process, zone-level population is also calculated and constrained to the county totals from DSA. Some adjustment of "group quarter" population was made to maintain consistency between households and total population. For employment, the 16 industrial groups used for statewide/economic employment are consolidated into 4 groups (retail, 2 for service categories, and all other) for trip generation rate purposes, while at a geographic level, the 58 zones covering Richland County in the statewide modeling system are disaggregated into 364 zones (roughly a 6:1 ratio) for the more detailed traffic assignment needed for MPO planning.

In summary, Richland County population is forecast to decline 9% from 2020 to 2050 (from 124,900 to 113,500) while total employment is forecast to increase about 4 ½ % (from 64,800 to 67,800) over this same period. Combined with forecasted growth in "external" traffic passing through the county (via the statewide model), vehicle-miles of travel per day is forecast to increase about 6% from 2020 to 2050, concentrated on the major through traffic and commuter routes. Within the MPO's travel model, reconciliation of population decline with employment increase is done mostly via change in inter-county work commute patterns, along with slight re-allocation of travel by trip purpose within an essentially constant trip rate per household and employment by industry.

Projected 2050 Ohio County Populations
Percent Change 2020 - 2050
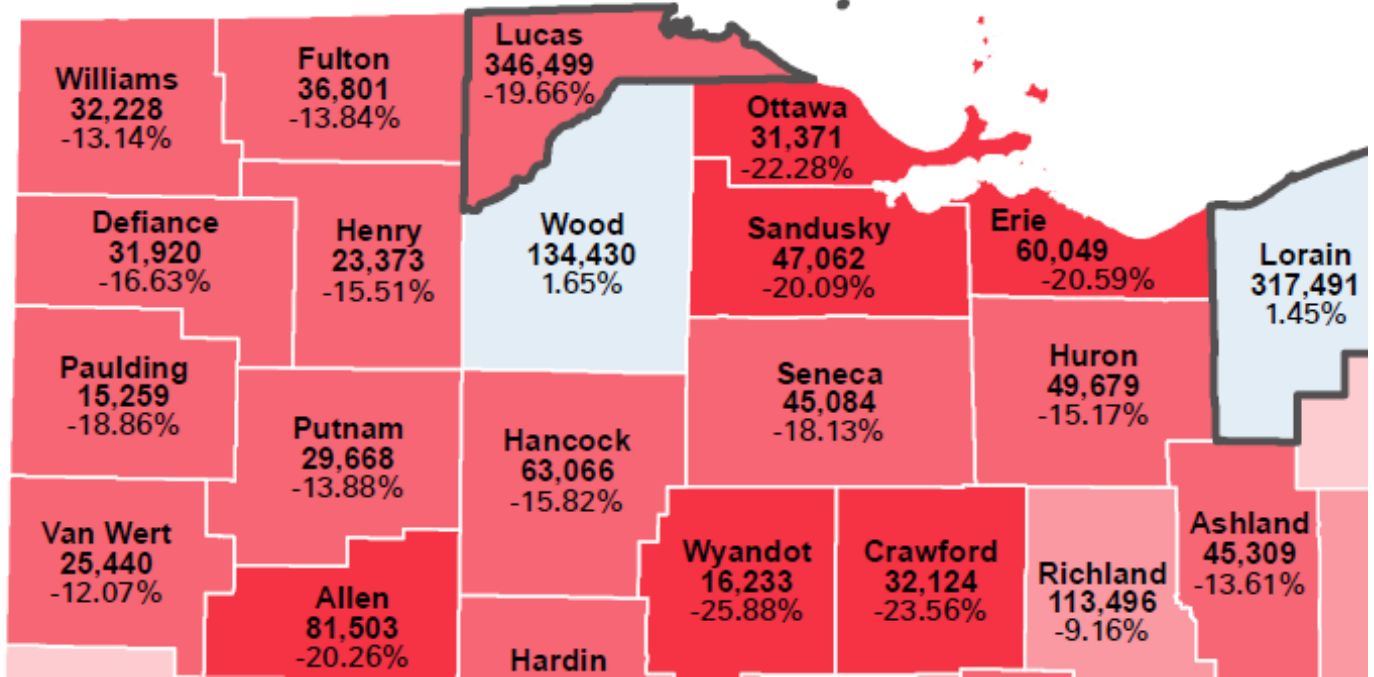
Area	Year	0to4_TOT	5to9_TOT	10to14_TOT	15to19_TOT	20to24_TOT	25to29_TOT	30to34_TOT	35to39_TOT	40to44_TOT	45to49_TOT	50to54_TOT	55to59_TOT	60to64_TOT	65to69_TOT	70to74_TOT	75to79_TOT	80to84_TOT	85+_TOT	Total_TOT
Ohio	2020	688,843	716,631	764,771	769,843	745,653	783,299	769,691	740,563	695,951	712,368	743,276	812,574	808,265	685,107	543,269	352,706	233,805	232,833	11,799,448
Ohio	2025	680,473	714,478	696,185	773,773	778,472	744,357	802,419	776,164	739,312	690,984	697,899	708,021	757,925	730,227	593,087	431,375	212,027	238,561	11,765,739
Ohio	2030	680,847	693,467	736,235	735,625	718,974	734,944	789,980	816,758	775,745	730,409	674,638	670,103	661,549	688,025	627,335	468,622	277,723	213,788	11,694,767
Ohio	2035	678,569	703,726	671,746	745,317	743,066	712,675	751,131	792,917	810,896	765,634	712,357	640,140	622,022	594,785	594,228	496,960	285,421	252,529	11,574,119
Ohio	2040	656,326	690,445	724,086	709,464	689,866	699,070	756,786	765,172	790,912	798,652	745,156	682,581	596,855	562,721	508,771	468,745	318,523	261,400	11,425,531
Ohio	2045	646,304	678,608	668,208	732,619	716,695	683,493	715,634	759,588	759,473	779,527	777,212	706,674	633,412	535,599	484,995	402,824	285,794	300,384	11,267,043
Ohio	2050	632,167	657,433	697,875	705,263	678,874	673,623	725,803	728,890	756,973	747,557	757,759	743,318	658,539	572,891	457,284	382,018	259,002	288,627	11,123,896
Richland	2020	7,131	7,528	8,076	7,509	7,365	8,205	7,668	7,324	7,560	7,377	7,617	8,333	8,616	7,792	6,384	4,329	3,065	3,057	124,936
Richland	2025	7,629	8,058	7,125	6,459	6,822	8,314	8,932	8,283	7,734	7,620	7,380	7,364	8,040	7,781	6,718	5,050	2,276	2,459	124,044
Richland	2030	7,158	7,912	8,406	7,107	6,010	6,479	8,811	8,942	8,411	7,581	7,298	6,992	6,840	7,388	6,630	5,358	3,331	1,994	122,648
Richland	2035	6,770	7,611	7,641	7,629	7,036	6,503	6,740	8,920	8,991	8,229	7,327	6,877	6,569	6,142	6,347	5,245	3,216	2,465	120,258
Richland	2040	6,519	7,032	7,930	7,596	7,135	6,685	6,927	6,750	9,005	8,767	7,852	6,923	6,369	6,034	5,203	5,041	3,443	2,517	117,728
Richland	2045	6,664	6,942	6,760	7,169	7,521	7,643	6,920	7,021	6,808	8,766	8,435	7,381	6,484	5,698	5,158	4,110	3,003	2,830	115,313
Richland	2050	6,851	6,894	7,226	6,718	6,719	7,167	8,046	6,900	7,103	6,632	8,325	7,938	6,818	5,941	4,811	4,090	2,683	2,634	113,496

ATTACHMENT B – FROM OHIO STATEWIDE TRAVEL MODELING (MAP)

FORECASTED EMPLOYMENT GROWTH 2020-2050
USA_TAZs_incl_CUBE_N Charts

- Agriculture Forestry and Fisheries Produ:2
- Agriculture Forestry and Fisheries Offic:2
- Primary Metal Products Production:2
- Primary Metal Products Office:2
- Light Industry Production:2
- Light Industry Office:2
- Heavy Industry Production:2
- Heavy Industry Office:2
- Transportation Equipment Production:2
- Transportation Equipment Office:2
- Wholesale Production:2
- Wholesale Office:2
- Retail Production:2
- Retail Office:2
- Hotel and Accommodation:2
- Construction:2
- Health Care:2
- Transportation Handling:2
- Utilities Services:2
- Other Services:2
- Gradeschool Education:2
- Post-Secondary Education:2
- Government and Other:2

OHIO STATEWIDE TRAVEL MODELING (REPORT)

The following 3 pages are taken from the Statewide Model documentation report, summarizing how zone-level forecasts of employment and population are developed, which are a function in part of economic forecasting, estimated constraints on land development (slope, floodplain, available utilities, etc.) and measures of accessibility.

Model Documentation

4.1 ISAM

4.1.1 Introduction

This model uses an Interregional Social Accounting Matrix (ISAM) with 14 regions covering the Continental United States, portions of placecountry-regionCanada and the Rest of the World (ROW) to represent the economy in the IMA and its interactions with the economy outside the IMA. One of these regions is the IMA.

The model accepts forecasts of final demands for commodities at the national level and the production activity composite utility for the IMA for each activity category for the previous year. Subject to further discussion, it may also accept commodity exchange prices and labor exchange prices by AMZ for the previous year. It provides the production activity totals by activity category in the IMA and the 13 other regions, and the region-to-region commodity flows including the flows of imports and exports by commodity category between the IMA and the 13 other regions.
Economic Geographics (Randy Jackson) has completed development of the ISAM and presented a report documenting its development. That report is the basis for this section.

4.1.2 Inputs & Outputs

Inputs:

1. _IMPLAN

   (a) Commodity sales and purchases among industries and institutions within each region.
   (b) Factor payments (labor, etc.) within regions.
   (c) Aggregate exports and imports for each region.

2. GIS (map)

   (a) Interregional shipment distances.

3. Bureau of Transportation Statistics, Commodity Flow Survey

   (a) Aggregate commodity values shipped by distance range.

4. Strategis

   (a) US-Canada commodity trade data.

5. Public Use Microdata Sample

   (a) Occupational data (production vs. office workers).

- A Land Use Inventory consisting of developed and vacant acres of land by development type,

- A Water & Sewer, Slope & Floodplain Inventory indicating the shares of each TAZ that fall into each of four W&S service categories, two steep slope categories and the 100-year floodplain category,

- The Socioeconomic Inventory produced by SEAM including households by household type and employment by industry category,

- A Floorspace Inventory to be updated by SLUM for input to SEAM.

Other primary inputs include land and floorspace consumption functions and socioeconomic growth rates by county. SLUM calculates potential socioeconomic growth by TAZ based on vacant land and land consumption rates by development category and aggregates potential growth by county. Socioeconomic activity by TAZ is also aggregated by county and exogenous county growth rates applied to produce anticipated socioeconomic change (positive or negative). Where anticipated change cannot be accommodated by input vacant land for any development category, a land transition operation is exercised to shift land from categories where an excess exists. In that event, the land use inventory is updated to reflect that transition and the potential growth is recalculated. The anticipated changes at county level are then allocated to the TAZ within based on the TAZ-level potentials adjusted by development indices reflecting W&S service levels, steep slopes and floodplains. The socioeconomic allocations by TAZ are then translated into required floorspace and the input floorspace inventory is updated for input to SEAM.

Generalized SLUM Operation
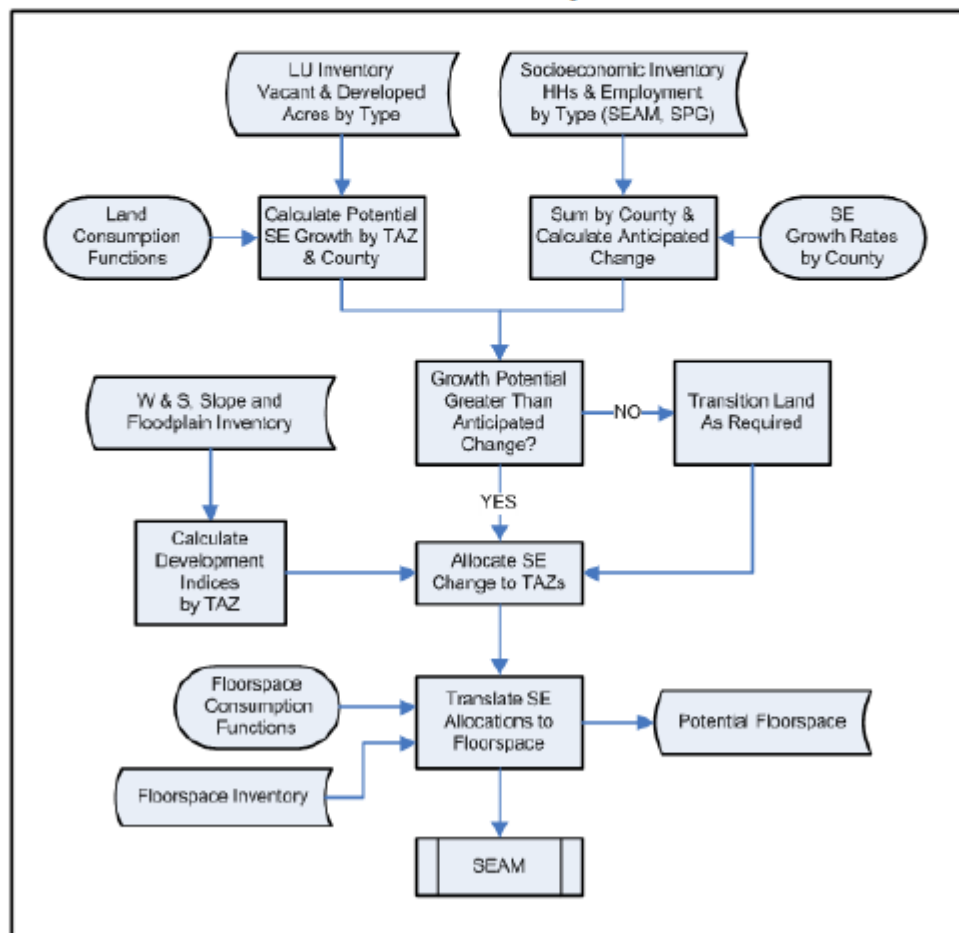
Note that the floorspace file output by SLUM is labeled "Potential Floorspace" because it may or may not be utilized by SEAM. Floorspace is the primary variable used by SEAM to locate households and employment but not the only one. Therefore, land use and floorspace inventories must be updated after SEAM runs to reflect the actual activity allocations SEAM produces. The temporal operation of SLUM and SEAM is indicated in *the* Temporal Operation *flow charts. As shown, SLUM is not run in the base year (Period t0). SEAM is run in the base year* with the "observed" land use and

4.4 SEAM

4.4.1 Introduction

Travel behavior and land use are linked closely. Depending on where people live, work, shop and spend leisure time travel demand arises. Likewise, the location of firms shapes the commodity flows. On the other hand, the transportation system and in particular travel times also have a strong impact on land use. Those areas that are more easily accessible become more attractive for both population and firms. The integration of a transportation simulation with land-use modeling allows simulating the entire land-use/transportation feedback cycle (Wegener, 2004: 130).

Simulation of land use in mathematical models has a history of about half a century. One of the first approaches was the model of Herbert and Stevens (1960) in cooperation with Britton Harris (1966) simulating the distribution of households to residential land use as an equilibrium model. Another pioneering example is the Model of Metropolis by Lowry (1964) allocating firms of the basic sector including the housing location of their employees and solving firms of the local sector and their employees iteratively. Based on this work of Lowry and on the famous work on urban dynamics by Forrester (1969) many land use models have been developed in the following decades. The most prominent examples are MEPLAN (Echenique et al. 1969, Echenique et al. 1990), PLUM (Rosenthal et al. 1972, Goldner et al. 1972, Reynolds and Meredith 1972), DRAM/EMPAL (Putman 1983), TRANUS (de la Barra 1989: 143 ff, de la Barra et al. 1984), IRPUD (Wegener 1998a, 1982), MUSSA (Martínez 1996), DELTA (Simmonds 2001, 1999), CUF Model (Landis and Zhang 1998a, 1998b), ALBATROSS (Arentze and Timmermans 2000), PECAS (Hunt and Abraham 2003), UrbanSim (Waddell et al. 2003, Waddell 2002), and ILUMASS (Moeckel et al. 2007, Strauch et al. 2005).

An extensive overview on current land-use/transportation models can be found in Hunt et al. (2005), Wegener (2004, 1998b, 1994), Timmermans (2003), Kanaroglou and Scott (2002), the U.S. Environmental Protection Agency EPA (2000: 27 ff), and Kain (1987). These summaries show that, recently, the tendency has been to develop ever more complex simulation models. Many model developers have moved towards microsimulation models that simulate individuals and their interaction rather than aggregate groups. While the number of ideas simulating detail and complexity has grown quickly, only few models have actually reached the status of a working, calibrated and validated simulation tool. The majority of recent land-use models remain sophisticated academic research tools rather than applicable planning support systems. This is one of the main reasons why current transportation models tend to be developed without land use simulations.

This lack of reliable ready-to-apply land use models motivated the development of SEAM (Simple Economic Allocation Model). The major driver was to develop a model that is easy to use, readily populated with data and reasonable in terms of simulation results. Thus, practicability was valued higher than academic search for detail. It has been developed to provide an uncomplicated land-use model that can be integrated with any transportation simulation (Figure Interaction of the transportation model with SEAM) The Transportation Simulation provides travel times, distances and/or costs, which are transformed into accessibilities by SEAM. Depending on these updated accessibilities and regional control totals for population and employment, SEAM updates the location of households and jobs. Additionally, SEAM derives flows of labor (i.e. commuter trips) and flows of commodities (i.e. goods flows). Flows are provided as an origin/destination matrix that can be assigned to the transportation network by the transportation model. The spatial resolution is based on zones.
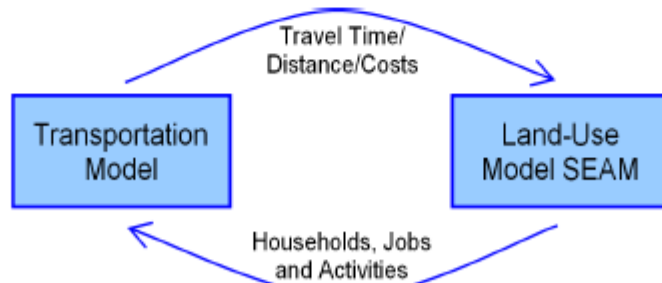
Interaction of the transportation model with SEAM

A major goal for the development of SEAM was to develop a model that is easy to implement, to calibrate and to use. Input data are limited to the required minimum, and sophisticated detail is replaced by simplicity. The calibration is limited to straightforward statistical procedures such as linear regression and iterative proportional fitting. The model focuses on providing the minimum required data to implement the transportation/land-use feedback cycle.

ATTACHMENT C – FROM OHIO STATEWIDE TRAVEL MODELING

Mapped summaries of projected change in population and total employment – disaggregated to small MPO model zones - are shown on the following pages (a table of numbers by zone including detailed breakout of employment by industrial category is contained in a shapefile shipped to RCRPC staff).
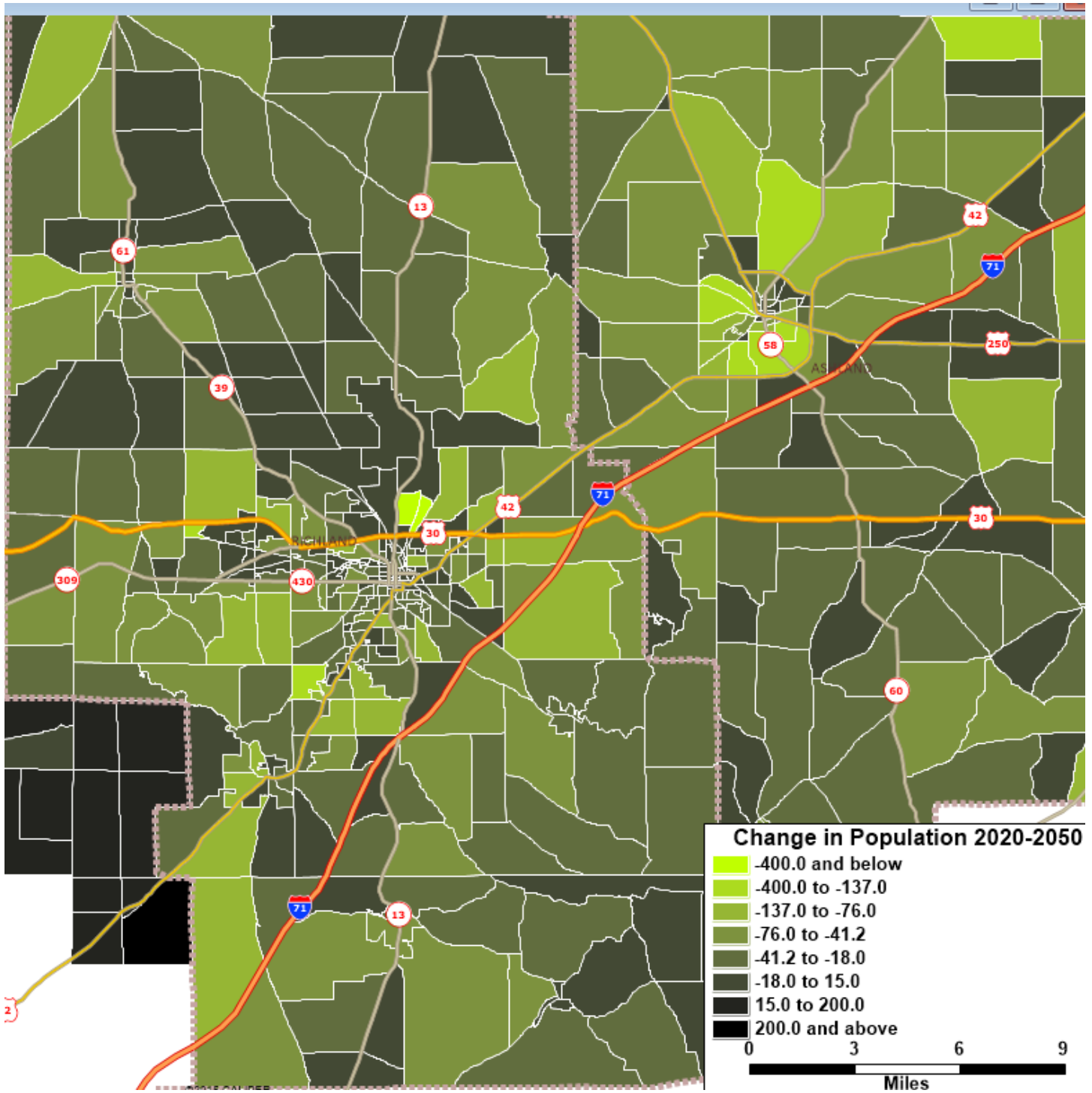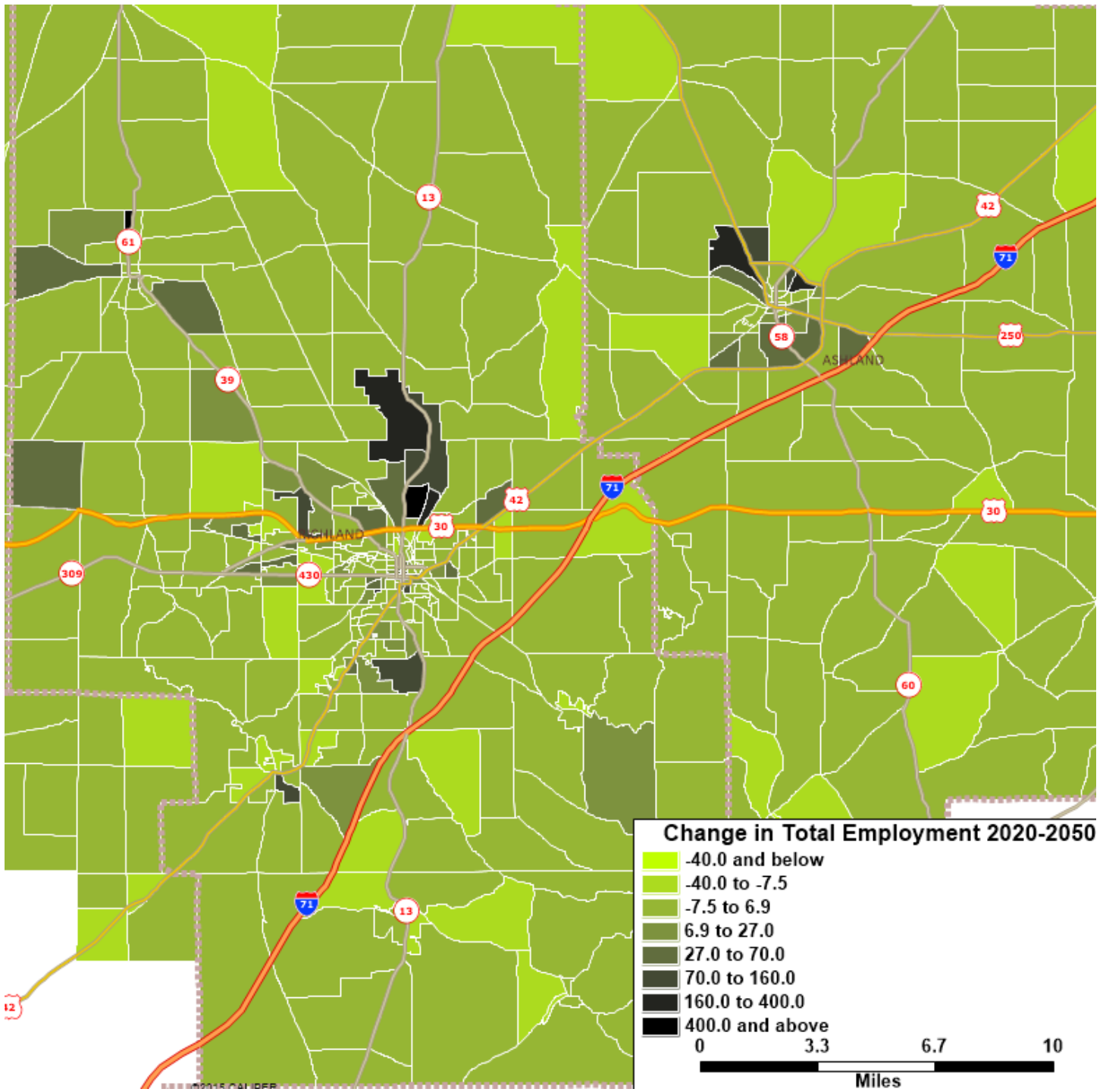
Change in Population 2020-2050

	-400.0 and below
	-400.0 to -137.0
	-137.0 to -76.0
	-76.0 to -41.2
	-41.2 to -18.0
	-18.0 to 15.0
	15.0 to 200.0
	200.0 and above

0   3   6   9
Miles

Change in Total Employment 2020-2050

- -40.0 and below
- -40.0 to -7.5
- -7.5 to 6.9
- 6.9 to 27.0
- 27.0 to 70.0
- 70.0 to 160.0
- 160.0 to 400.0
- 400.0 and above

| 0 | 3.3 | 6.7 | 10 |

Miles

Projections of Population, Households and Employment (2025 - 2050) By TAZ for 2025 - 2050 Long-Range Transportation Plan Update

Zone ID	Area (Square Miles)	Population			Households			Employment		
		2025	2050	% Change	2025	2050	% Change	2025	2050	% Change
Totals	N/A	124,046	113,492	-8.5%	48,165	44,908	-6.8%	65,301	67,783	3.8%
1	0.01	40	37	-7.5%	15	14	-6.7%	299	453	51.5%
2	0.02	57	54	-5.3%	47	45	-4.3%	103	108	4.9%
3	3.37	614	549	-10.6%	229	207	-9.6%	6	4	-33.3%
4	4.65	369	331	-10.3%	149	135	-9.4%	4	5	25.0%
5	0.32	236	213	-9.7%	95	86	-9.5%	36	34	-5.6%
6	2.66	316	284	-10.1%	125	114	-8.8%	1	1	0.0%
7	3.18	175	158	-9.7%	71	64	-9.9%	1	1	0.0%
8	6.11	271	239	-11.8%	79	70	-11.4%	3	3	0.0%
9	6.23	222	196	-11.7%	92	82	-10.9%	1	1	0.0%
10	5.99	324	291	-10.2%	139	125	-10.1%	75	96	28.0%
11	5.58	178	160	-10.1%	66	60	-9.1%	23	29	26.1%
12	2.42	262	236	-9.9%	98	89	-9.2%	6	6	0.0%
13	0.02	28	26	-7.1%	21	20	-4.8%	356	381	7.0%
14	3.15	270	243	-10.0%	93	85	-8.6%	13	12	-7.7%
15	4.08	458	412	-10.0%	186	168	-9.7%	701	678	-3.3%
16	2.04	285	254	-10.9%	97	87	-10.3%	89	84	-5.6%
17	3.11	423	377	-10.9%	176	158	-10.2%	20	20	0.0%
18	0.02	106	101	-4.7%	53	51	-3.8%	4	4	0.0%
19	0.07	421	400	-5.0%	201	193	-4.0%	73	76	4.1%
20	0.10	596	568	-4.7%	222	214	-3.6%	25	24	-4.0%
21	0.14	576	550	-4.5%	304	292	-3.9%	70	73	4.3%
22	0.13	777	741	-4.6%	363	349	-3.9%	309	323	4.5%
23	0.08	518	486	-6.2%	201	190	-5.5%	32	29	-9.4%
24	0.02	53	50	-5.7%	31	29	-6.5%	79	81	2.5%
25	0.19	1,152	1,071	-7.0%	439	415	-5.5%	155	153	-1.3%
26	0.15	669	628	-6.1%	308	292	-5.2%	194	193	-0.5%
27	0.13	414	389	-6.0%	180	170	-5.6%	35	34	-2.9%
28	0.10	354	332	-6.2%	162	154	-4.9%	122	121	-0.8%
29	0.03	191	182	-4.7%	75	72	-4.0%	1,034	1,048	1.4%
30	0.19	636	604	-5.0%	262	251	-4.2%	28	28	0.0%
31	0.25	825	778	-5.7%	402	386	-4.0%	669	677	1.2%
32	0.32	689	656	-4.8%	297	285	-4.0%	10	10	0.0%
33	0.20	751	715	-4.8%	377	362	-4.0%	193	196	1.6%
34	0.32	590	554	-6.1%	356	337	-5.3%	99	99	0.0%
35	0.03	1	1	0.0%	1	1	0.0%	183	235	28.4%
36	1.09	116	94	-19.0%	13	12	-7.7%	1	1	0.0%
37	0.10	1	1	0.0%	1	1	0.0%	620	595	-4.0%
38	0.83	1,351	1,171	-13.3%	533	466	-12.6%	150	142	-5.3%
39	0.33	906	851	-6.1%	506	479	-5.3%	101	105	4.0%
40	0.67	1,455	1,367	-6.0%	692	655	-5.3%	324	339	4.6%
41	1.22	416	391	-6.0%	193	183	-5.2%	624	726	16.3%
42	1.45	1,393	1,308	-6.1%	613	580	-5.4%	103	106	2.9%
43	0.80	374	347	-7.2%	148	138	-6.8%	136	132	-2.9%
44	2.18	224	194	-13.4%	93	81	-12.9%	17	16	-5.9%
45	1.63	177	153	-13.6%	75	66	-12.0%	7	7	0.0%
46	0.03	20	19	-5.0%	4	4	0.0%	98	98	0.0%
47	0.34	1,141	1,072	-6.0%	456	431	-5.5%	238	215	-9.7%
48	0.20	54	51	-5.6%	29	27	-6.9%	97	87	-10.3%
49	0.32	309	279	-9.7%	180	164	-8.9%	546	548	0.4%
50	0.35	189	170	-10.1%	100	91	-9.0%	635	716	12.8%
51	0.36	148	134	-9.5%	55	50	-9.1%	219	220	0.5%
52	0.73	1,169	1,086	-7.1%	404	382	-5.4%	276	249	-9.8%
53	0.48	1,091	1,024	-6.1%	446	422	-5.4%	25	23	-8.0%
54	2.96	261	245	-6.1%	95	90	-5.3%	0	0	0.0%
55	2.99	414	373	-9.9%	154	140	-9.1%	9	7	-22.2%
56	2.59	195	172	-11.8%	78	69	-11.5%	0	0	0.0%
57	0.01	0	0	0.0%	0	0	0.0%	65	85	30.8%
62	2.83	439	412	-6.2%	152	143	-5.9%	0	0	0.0%
63	3.17	805	728	-9.6%	295	269	-8.8%	8	8	0.0%
64	2.33	134	121	-9.7%	52	47	-9.6%	6	5	-16.7%
65	2.15	111	100	-9.9%	38	34	-10.5%	6	6	0.0%
66	2.58	208	185	-11.1%	67	60	-10.4%	504	481	-4.6%
67	2.53	284	255	-10.2%	105	95	-9.5%	837	843	0.7%
68	0.02	0	0	0.0%	0	0	0.0%	8	9	12.5%
69	0.81	370	343	-7.3%	180	168	-6.7%	321	315	-1.9%
70	1.27	133	119	-10.5%	81	73	-9.9%	6	5	-16.7%
71	0.04	112	105	-6.3%	49	46	-6.1%	6	5	-16.7%
72	0.05	204	193	-5.4%	93	89	-4.3%	52	52	0.0%
73	0.07	262	250	-4.6%	125	120	-4.0%	1,142	1,199	5.0%
74	0.09	518	494	-4.6%	233	224	-3.9%	546	572	4.8%
75	0.21	1,215	1,150	-5.3%	515	492	-4.5%	90	89	-1.1%
76	0.17	973	922	-5.2%	417	399	-4.3%	20	19	-5.0%
77	0.20	998	942	-5.6%	383	365	-4.7%	307	306	-0.3%
78	0.12	164	150	-8.5%	68	63	-7.4%	497	503	1.2%
79	0.04	20	19	-5.0%	14	13	-7.1%	16	16	0.0%
80	0.08	148	136	-8.1%	31	28	-9.7%	336	339	0.9%
81	0.14	384	364	-5.2%	188	180	-4.3%	41	39	-4.9%
82	0.18	565	535	-5.3%	261	249	-4.6%	1	1	0.0%
83	0.17	677	613	-9.5%	312	285	-8.7%	286	283	-1.0%
84	0.69	620	559	-9.8%	298	272	-8.7%	362	355	-1.9%
85	0.31	288	264	-8.3%	166	153	-7.8%	834	823	-1.3%
86	0.30	227	208	-8.4%	83	77	-7.2%	244	244	0.0%
87	0.03	28	25	-10.7%	10	9	-10.0%	266	265	-0.4%
88	1.05	512	446	-12.9%	239	218	-8.8%	817	818	0.1%
89	0.08	77	73	-5.2%	39	38	-2.6%	265	264	-0.4%
90	0.51	0	0	0.0%	0	0	0.0%	104	99	-4.8%
91	0.29	623	577	-7.4%	279	261	-6.5%	18	17	-5.6%
92	0.09	263	243	-7.6%	69	65	-5.8%	240	263	9.6%
93	0.23	357	330	-7.6%	147	137	-6.8%	98	101	3.1%
94	0.36	657	608	-7.5%	296	276	-6.8%	474	487	2.7%
95	0.54	543	489	-9.9%	183	166	-9.3%	81	86	6.2%
96	1.71	328	295	-10.1%	104	94	-9.6%	128	132	3.1%
97	0.27	1,365	1,228	-10.0%	227	206	-9.3%	94	101	7.4%
98	1.12	455	410	-9.9%	171	155	-9.4%	1	1	0.0%
99	0.41	130	116	-10.8%	67	61	-9.0%	39	41	5.1%
100	0.08	135	111	-17.8%	22	21	-4.5%	77	77	0.0%
101	0.24	277	250	-9.7%	96	87	-9.4%	43	45	4.7%
102	0.42	317	286	-9.8%	106	96	-9.4%	39	39	0.0%
103	0.50	166	149	-10.2%	61	56	-8.2%	85	86	1.2%
104	2.36	361	323	-10.5%	154	139	-9.7%	15	15	0.0%
105	3.70	479	422	-11.9%	193	171	-11.4%	11	11	0.0%
106	1.57	376	332	-11.7%	140	124	-11.4%	24	21	-12.5%

Zone ID	Area (Square Miles)	Population			Households			Employment		
		2025	2050	% Change	2025	2050	% Change	2025	2050	% Change
107	2.30	404	356	-11.9%	146	129	-11.6%	16	14	-12.5%
108	1.53	347	306	-11.8%	146	130	-11.0%	21	19	-9.5%
109	2.31	750	670	-10.7%	293	264	-9.9%	88	83	-5.7%
110	1.94	855	764	-10.6%	343	308	-10.2%	417	402	-3.6%
111	0.02	0	0	0.0%	0	0	0.0%	267	403	50.9%
112	0.02	0	0	0.0%	0	0	0.0%	65	62	-4.6%
113	3.84	158	141	-10.8%	53	48	-9.4%	331	356	7.6%
114	4.31	277	248	-10.5%	113	102	-9.7%	1	1	0.0%
115	3.08	375	330	-12.0%	132	117	-11.4%	0	0	0.0%
116	3.03	202	178	-11.9%	85	76	-10.6%	2	2	0.0%
117	0.02	97	84	-13.4%	33	31	-6.1%	167	180	7.8%
118	0.04	180	167	-7.2%	63	59	-6.3%	6	6	0.0%
119	0.04	79	73	-7.6%	35	33	-5.7%	6	6	0.0%
120	0.03	4	4	0.0%	3	3	0.0%	6	6	0.0%
121	0.10	13	12	-7.7%	5	5	0.0%	6	6	0.0%
122	0.11	538	506	-5.9%	197	187	-5.1%	37	38	2.7%
123	0.09	200	186	-7.0%	71	67	-5.6%	120	114	-5.0%
124	0.09	423	399	-5.7%	189	180	-4.8%	2	2	0.0%
125	0.32	608	558	-8.2%	248	229	-7.7%	65	67	3.1%
126	0.07	230	213	-7.4%	94	87	-7.4%	54	48	-11.1%
127	0.20	446	409	-8.3%	164	151	-7.9%	408	416	2.0%
128	0.60	222	210	-5.4%	93	89	-4.3%	462	493	6.7%
129	0.13	671	634	-5.5%	269	256	-4.8%	17	16	-5.9%
130	0.45	567	535	-5.6%	241	230	-4.6%	176	179	1.7%
131	0.20	875	802	-8.3%	407	376	-7.6%	186	188	1.1%
132	0.57	1,029	961	-6.6%	444	423	-4.7%	546	562	2.9%
133	0.41	541	511	-5.5%	234	223	-4.7%	8	8	0.0%
134	0.08	219	203	-7.3%	97	91	-6.2%	48	42	-12.5%
135	1.21	472	446	-5.5%	201	191	-5.0%	357	364	2.0%
136	0.70	315	270	-14.3%	55	52	-5.5%	1,126	1,199	6.5%
137	0.73	18	15	-16.7%	13	11	-15.4%	739	751	1.6%
138	0.69	101	85	-15.8%	49	42	-14.3%	29	29	0.0%
139	4.02	741	628	-15.2%	316	270	-14.6%	240	229	-4.6%
140	2.90	196	166	-15.3%	86	73	-15.1%	6	6	0.0%
141	3.42	276	246	-10.9%	113	102	-9.7%	1	1	0.0%
142	0.11	0	0	0.0%	0	0	0.0%	426	415	-2.6%
143	2.01	79	73	-7.6%	30	28	-6.7%	1,357	1,474	8.6%
144	1.91	268	253	-5.6%	87	83	-4.6%	70	75	7.1%
145	0.05	20	18	-10.0%	5	5	0.0%	21	18	-14.3%
146	0.02	0	0	0.0%	0	0	0.0%	278	268	-3.6%
147	0.04	130	118	-9.2%	57	52	-8.8%	148	144	-2.7%
148	0.07	111	101	-9.0%	47	43	-8.5%	97	96	-1.0%
149	0.04	4	4	0.0%	3	3	0.0%	42	40	-4.8%
150	0.01	21	19	-9.5%	13	12	-7.7%	46	46	0.0%
151	0.37	484	440	-9.1%	207	190	-8.2%	6	6	0.0%
152	0.24	282	266	-5.7%	112	107	-4.5%	373	362	-2.9%
153	0.03	243	225	-7.4%	85	80	-5.9%	6	7	16.7%
154	0.27	343	309	-9.9%	139	126	-9.4%	270	258	-4.4%
155	0.03	150	141	-6.0%	65	61	-6.2%	58	56	-3.4%
156	0.04	0	0	0.0%	0	0	0.0%	38	32	-15.8%
157	0.16	474	445	-6.1%	222	210	-5.4%	108	108	0.0%
158	0.05	98	92	-6.1%	33	31	-6.1%	10	10	0.0%
159	0.11	362	340	-6.1%	155	147	-5.2%	161	160	-0.6%
160	0.24	180	163	-9.4%	113	108	-4.4%	1,057	1,073	1.5%
161	0.00	0	0	0.0%	0	0	0.0%	551	560	1.6%
162	0.19	296	282	-4.7%	179	172	-3.9%	782	793	1.4%
163	0.19	553	479	-13.4%	205	179	-12.7%	74	71	-4.1%
164	0.06	52	49	-5.8%	25	23	-8.0%	305	313	2.6%
165	0.10	179	168	-6.1%	116	110	-5.2%	946	985	4.1%
166	0.03	0	0	0.0%	0	0	0.0%	132	133	0.8%
167	0.04	19	18	-5.3%	10	9	-10.0%	464	464	0.0%
168	0.81	183	170	-7.1%	66	61	-7.6%	435	429	-1.4%
169	0.99	599	555	-7.3%	211	197	-6.6%	66	65	-1.5%
170	0.98	1,275	1,182	-7.3%	508	475	-6.5%	58	57	-1.7%
171	0.02	21	20	-4.8%	2	2	0.0%	2,915	3,061	5.0%
172	0.05	429	394	-8.2%	175	168	-4.0%	431	453	5.1%
173	0.05	58	53	-8.6%	26	24	-7.7%	366	369	0.8%
174	0.01	270	248	-8.1%	82	76	-7.3%	6	6	0.0%
175	0.20	0	0	0.0%	0	0	0.0%	257	261	1.6%
176	0.10	124	113	-8.9%	81	74	-8.6%	770	774	0.5%
177	0.11	0	0	0.0%	0	0	0.0%	660	652	-1.2%
178	0.17	241	221	-8.3%	137	126	-8.0%	253	239	-5.5%
179	0.11	0	0	0.0%	0	0	0.0%	323	330	2.2%
180	0.37	0	0	0.0%	0	0	0.0%	976	969	-0.7%
181	0.06	0	0	0.0%	0	0	0.0%	273	277	1.5%
182	0.26	21	19	-9.5%	16	15	-6.3%	666	666	0.0%
183	0.21	107	99	-7.5%	58	54	-6.9%	780	818	4.9%
184	0.02	0	0	0.0%	0	0	0.0%	79	75	-5.1%
185	0.17	0	0	0.0%	0	0	0.0%	361	380	5.3%
186	0.19	0	0	0.0%	0	0	0.0%	800	834	4.3%
187	0.05	225	207	-8.0%	82	76	-7.3%	38	36	-5.3%
188	0.04	36	33	-8.3%	13	12	-7.7%	6	5	-16.7%
189	0.56	0	0	0.0%	0	0	0.0%	158	168	6.3%
190	0.11	167	151	-9.6%	126	114	-9.5%	166	146	-12.0%
191	0.24	0	0	0.0%	0	0	0.0%	746	798	7.0%
192	0.04	89	84	-5.6%	53	50	-5.7%	37	37	0.0%
193	0.23	256	242	-5.5%	104	99	-4.8%	6	6	0.0%
194	0.13	11	9	-18.2%	8	7	-12.5%	596	584	-2.0%
195	0.73	739	654	-11.5%	263	246	-6.5%	633	638	0.8%
196	0.20	67	62	-7.5%	31	29	-6.5%	722	706	-2.2%
199	0.19	172	163	-5.2%	107	102	-4.7%	6	6	0.0%
200	0.01	9	8	-11.1%	6	5	-16.7%	65	69	6.2%
201	0.29	2,576	1,988	-22.8%	4	4	0.0%	724	941	30.0%
202	0.52	2,526	1,948	-22.9%	0	0	0.0%	1,200	1,569	30.8%
203	0.12	0	0	0.0%	0	0	0.0%	159	166	4.4%
204	1.18	40	37	-7.5%	3	3	0.0%	629	669	6.4%
205	3.15	15	14	-6.7%	6	6	0.0%	1,100	1,263	14.8%
206	1.75	1,029	954	-7.3%	404	384	-5.0%	28	28	0.0%
207	1.42	605	571	-5.6%	257	244	-5.1%	27	29	7.4%
208	0.09	4	4	0.0%	3	3	0.0%	6	6	0.0%
209	0.03	75	70	-6.7%	18	16	-11.1%	73	99	35.6%
210	0.02	207	164	-20.8%	5	5	0.0%	95	129	35.8%
211	0.01	0	0	0.0%	0	0	0.0%	120	126	5.0%
212	0.02	123	111	-9.8%	27	25	-7.4%	0	0	0.0%

Projections of Population, Households and Employment (2025 - 2050) By TAZ for 2025 - 2050 Long-Range Transportation Plan Update

Projections of Population, Households and Employment (2025 - 2050) By TAZ for 2025 - 2050 Long-Range Transportation Plan Update									
Zone ID	Area (Square Miles)	Population			Households			Employment		
		2025	2050	% Change	2025	2050	% Change	2025	2050	% Change
213	0.07	206	191	-7.3%	81	76	-6.2%	48	68	41.7%
214	0.04	0	0	0.0%	0	0	0.0%	23	28	21.7%
215	0.04	25	24	-4.0%	7	6	-14.3%	6	6	0.0%
216	0.01	0	0	0.0%	0	0	0.0%	136	123	-9.6%
217	0.03	2	2	0.0%	1	1	0.0%	26	24	-7.7%
218	0.18	998	919	-7.9%	397	369	-7.1%	6	6	0.0%
219	0.06	155	143	-7.7%	70	65	-7.1%	146	145	-0.7%
220	0.07	60	57	-5.0%	20	19	-5.0%	146	148	1.4%
221	0.04	25	24	-4.0%	7	6	-14.3%	56	51	-8.9%
222	0.01	102	97	-4.9%	83	80	-3.6%	24	24	0.0%
223	0.04	3	3	0.0%	2	2	0.0%	42	43	2.4%
224	0.10	0	0	0.0%	0	0	0.0%	20	20	0.0%
225	0.31	247	226	-8.5%	96	89	-7.3%	54	57	5.6%
226	0.15	85	77	-9.4%	35	32	-8.6%	133	146	9.8%
227	0.19	250	227	-9.2%	129	118	-8.5%	219	214	-2.3%
228	0.09	259	236	-8.9%	108	99	-8.3%	202	199	-1.5%
229	0.42	209	198	-5.3%	103	98	-4.9%	6	6	0.0%
230	0.08	321	291	-9.3%	119	109	-8.4%	148	144	-2.7%
231	0.12	327	299	-8.6%	146	134	-8.2%	9	9	0.0%
232	0.14	115	99	-13.9%	32	30	-6.3%	291	321	10.3%
233	0.01	6	5	-16.7%	4	4	0.0%	11	14	27.3%
234	0.39	508	461	-9.3%	214	195	-8.9%	26	26	0.0%
235	0.32	84	76	-9.5%	33	30	-9.1%	312	306	-1.9%
236	1.04	114	96	-15.8%	23	21	-8.7%	185	185	0.0%
237	0.64	735	664	-9.7%	318	290	-8.8%	15	14	-6.7%
238	0.46	218	197	-9.6%	86	79	-8.1%	29	28	-3.4%
239	0.27	219	199	-9.1%	94	86	-8.5%	162	159	-1.9%
240	0.28	656	596	-9.1%	273	250	-8.4%	27	26	-3.7%
241	0.43	854	776	-9.1%	318	291	-8.5%	553	541	-2.2%
242	0.04	37	35	-5.4%	12	12	0.0%	142	138	-2.8%
243	0.82	1,405	1,327	-5.6%	574	546	-4.9%	397	420	5.8%
244	0.02	9	8	-11.1%	3	3	0.0%	71	101	42.3%
245	2.20	794	749	-5.7%	322	306	-5.0%	63	61	-3.2%
246	1.76	604	571	-5.5%	262	249	-5.0%	119	114	-4.2%
247	1.12	659	598	-9.3%	213	203	-4.7%	215	209	-2.8%
248	1.60	1,929	1,820	-5.7%	838	797	-4.9%	85	82	-3.5%
249	1.48	415	366	-11.8%	165	148	-10.3%	32	28	-12.5%
250	1.83	304	288	-5.3%	49	46	-6.1%	6	5	-16.7%
251	7.08	782	696	-11.0%	282	253	-10.3%	25	19	-24.0%
252	2.49	334	297	-11.1%	153	137	-10.5%	0	0	0.0%
255	0.01	0	0	0.0%	0	0	0.0%	346	373	7.8%
256	3.42	432	388	-10.2%	184	166	-9.8%	23	13	-43.5%
260	0.03	180	160	-11.1%	48	45	-6.3%	67	101	50.7%
261	0.05	254	236	-7.1%	103	96	-6.8%	186	279	50.0%
262	0.09	390	362	-7.2%	164	153	-6.7%	7	7	0.0%
263	0.02	0	0	0.0%	0	0	0.0%	18	21	16.7%
264	0.42	477	452	-5.2%	215	205	-4.7%	135	130	-3.7%
265	0.14	351	330	-6.0%	166	158	-4.8%	513	510	-0.6%
266	0.02	14	13	-7.1%	13	12	-7.7%	131	141	7.6%
267	0.07	424	398	-6.1%	163	154	-5.5%	18	18	0.0%
268	0.21	428	402	-6.1%	163	154	-5.5%	51	50	-2.0%
269	0.13	480	454	-5.4%	213	203	-4.7%	1	1	0.0%
270	0.14	449	425	-5.3%	188	180	-4.3%	10	9	-10.0%
271	0.10	653	619	-5.2%	312	298	-4.5%	230	228	-0.9%
272	1.35	288	263	-8.7%	119	110	-7.6%	460	457	-0.7%
273	0.62	883	803	-9.1%	378	347	-8.2%	67	66	-1.5%
274	0.24	1,026	975	-5.0%	537	515	-4.1%	21	21	0.0%
275	1.50	517	462	-10.6%	210	189	-10.0%	0	0	0.0%
276	1.67	176	165	-6.3%	61	57	-6.6%	22	22	0.0%
338	5.22	681	635	-6.8%	266	250	-6.0%	42	37	-11.9%
339	2.71	989	899	-9.1%	328	306	-6.7%	1,433	1,468	2.4%
340	6.29	650	566	-12.9%	259	227	-12.4%	0	0	0.0%
341	2.03	62	54	-12.9%	14	12	-14.3%	0	0	0.0%
342	2.39	114	106	-7.0%	35	33	-5.7%	0	0	0.0%
345	6.38	200	174	-13.0%	76	67	-11.8%	11	15	36.4%
347	5.82	74	69	-6.8%	33	31	-6.1%	3	3	0.0%
350	4.78	361	314	-13.0%	137	121	-11.7%	7	10	42.9%
351	0.61	490	453	-7.6%	206	192	-6.8%	279	282	1.1%
352	2.35	56	52	-7.1%	18	17	-5.6%	749	764	2.0%
353	0.94	493	457	-7.3%	162	152	-6.2%	8	7	-12.5%
354	0.27	569	527	-7.4%	208	194	-6.7%	83	84	1.2%
355	0.37	588	544	-7.5%	256	239	-6.6%	48	48	0.0%
356	0.85	122	107	-12.3%	44	38	-13.6%	7	9	28.6%
357	4.20	170	159	-6.5%	66	63	-4.5%	0	0	0.0%
358	0.14	512	475	-7.2%	251	234	-6.8%	127	127	0.0%
360	0.05	239	221	-7.5%	114	106	-7.0%	36	36	0.0%
361	0.02	104	96	-7.7%	46	43	-6.5%	249	253	1.6%
362	1.87	299	279	-6.7%	103	97	-5.8%	15	14	-6.7%
363	5.69	699	653	-6.6%	257	242	-5.8%	121	111	-8.3%
364	0.18	18	16	-11.1%	8	7	-12.5%	320	667	108.4%
365	2.72	400	382	-4.5%	194	186	-4.1%	258	258	0.0%
366	0.31	441	403	-8.6%	180	168	-6.7%	121	123	1.7%
367	0.10	389	360	-7.5%	185	173	-6.5%	228	229	0.4%
370	0.22	212	196	-7.5%	51	48	-5.9%	87	85	-2.3%
372	0.02	64	60	-6.3%	35	33	-5.7%	60	60	0.0%
373	0.09	180	167	-7.2%	79	73	-7.6%	573	581	1.4%
374	0.07	116	108	-6.9%	45	42	-6.7%	109	109	0.0%
375	5.82	132	123	-6.8%	52	49	-5.8%	19	17	-10.5%
376	0.03	82	75	-8.5%	11	10	-9.1%	349	353	1.1%
377	0.22	78	67	-14.1%	13	11	-15.4%	9	12	33.3%
378	2.85	181	173	-4.4%	73	70	-4.1%	6	6	0.0%
379	0.76	917	876	-4.5%	397	382	-3.8%	53	57	7.5%
380	2.83	1,007	962	-4.5%	464	446	-3.9%	6	6	0.0%
381	0.17	629	582	-7.5%	242	226	-6.6%	76	75	-1.3%
382	2.23	1,147	1,095	-4.5%	516	497	-3.7%	561	589	5.0%
383	2.34	172	160	-7.0%	50	47	-6.0%	6	5	-16.7%
385	0.86	180	172	-4.4%	79	76	-3.8%	0	0	0.0%
386	0.34	146	139	-4.8%	63	61	-3.2%	14	15	7.1%
387	3.17	422	387	-8.3%	127	122	-3.9%	317	323	1.9%
388	7.47	674	594	-11.9%	217	194	-10.6%	109	103	-5.5%
389	3.60	415	396	-4.6%	170	164	-3.5%	47	49	4.3%
390	6.44	495	462	-6.7%	163	154	-5.5%	95	78	-17.9%
391	0.28	0	0	0.0%	0	0	0.0%	0	0	0.0%
392	1.16	0	0	0.0%	0	0	0.0%	6	4	-33.3%

		Population			Households			Employment		
Zone ID	Area (Square Miles)	2025	2050	% Change	2025	2050	% Change	2025	2050	% Change
393	2.04	180	172	-4.4%	79	76	-3.8%	6	6	0.0%
394	3.53	155	145	-6.5%	56	53	-5.4%	0	0	0.0%
395	6.85	407	361	-11.3%	132	118	-10.6%	15	14	-6.7%
398	2.19	225	215	-4.4%	103	99	-3.9%	2	2	0.0%
399	2.36	154	147	-4.5%	58	56	-3.4%	13	13	0.0%
400	3.75	229	202	-11.8%	81	72	-11.1%	13	10	-23.1%
401	3.63	199	180	-9.5%	56	51	-8.9%	45	47	4.4%
402	3.66	188	171	-9.0%	49	45	-8.2%	6	7	16.7%
403	7.11	302	273	-9.6%	90	82	-8.9%	14	15	7.1%
404	6.60	736	692	-6.0%	261	247	-5.4%	33	29	-12.1%
405	0.66	716	672	-6.1%	326	308	-5.5%	122	118	-3.3%
406	4.64	152	138	-9.2%	44	40	-9.1%	12	13	8.3%
407	4.30	424	398	-6.1%	159	151	-5.0%	19	14	-26.3%
408	2.64	281	249	-11.4%	90	81	-10.0%	11	7	-36.4%
410	2.59	175	164	-6.3%	78	74	-5.1%	6	5	-16.7%
411	1.32	86	76	-11.6%	41	36	-12.2%	6	4	-33.3%
412	1.32	107	95	-11.2%	47	42	-10.6%	8	6	-25.0%
413	2.78	184	162	-12.0%	74	66	-10.8%	33	30	-9.1%
414	1.43	118	105	-11.0%	42	38	-9.5%	8	7	-12.5%
415	2.09	132	124	-6.1%	51	49	-3.9%	30	22	-26.7%
416	0.19	317	298	-6.0%	134	127	-5.2%	98	94	-4.1%
417	2.09	249	219	-12.0%	99	88	-11.1%	6	4	-33.3%
418	3.48	190	172	-9.5%	68	62	-8.8%	1	1	0.0%
419	2.21	174	163	-6.3%	63	60	-4.8%	6	5	-16.7%
420	4.95	314	284	-9.6%	90	82	-8.9%	136	138	1.5%
422	2.47	26	24	-7.7%	8	7	-12.5%	20	21	5.0%
423	2.71	395	372	-5.8%	147	139	-5.4%	8	8	0.0%
424	11.26	738	694	-6.0%	299	283	-5.4%	36	30	-16.7%
425	1.91	626	587	-6.2%	247	233	-5.7%	125	113	-9.6%
426	0.52	675	634	-6.1%	309	293	-5.2%	287	270	-5.9%
427	1.85	180	159	-11.7%	64	57	-10.9%	0	0	0.0%
428	6.01	297	262	-11.8%	91	81	-11.0%	0	0	0.0%
429	1.32	223	195	-12.6%	66	59	-10.6%	0	0	0.0%
430	3.86	401	376	-6.2%	156	147	-5.8%	333	324	-2.7%
431	7.46	631	574	-9.0%	192	176	-8.3%	1	0	-100.0%
432	5.72	174	158	-9.2%	52	48	-7.7%	15	11	-26.7%
433	6.95	322	301	-6.5%	110	104	-5.5%	2	2	0.0%
434	0.16	206	193	-6.3%	80	76	-5.0%	18	16	-11.1%
435	0.12	29	28	-3.4%	11	10	-9.1%	66	44	-33.3%
437	5.87	422	369	-12.6%	154	136	-11.7%	0	0	0.0%
438	4.89	135	123	-8.9%	46	43	-6.5%	36	23	-36.1%
439	3.37	511	441	-13.7%	178	157	-11.8%	0	0	0.0%
440	2.79	111	97	-12.6%	40	36	-10.0%	0	0	0.0%
441	3.42	213	199	-6.6%	83	78	-6.0%	5	5	0.0%
442	8.73	355	322	-9.3%	79	72	-8.9%	0	0	0.0%
443	5.61	398	373	-6.3%	149	141	-5.4%	3	2	-33.3%
444	0.10	190	178	-6.3%	49	46	-6.1%	50	46	-8.0%
445	5.24	374	327	-12.6%	131	116	-11.5%	22	13	-40.9%
449	1.18	87	76	-12.6%	29	25	-13.8%	7	0	-100.0%
450	4.02	203	190	-6.4%	91	86	-5.5%	37	33	-10.8%
456	5.37	355	332	-6.5%	110	104	-5.5%	2	2	0.0%
467	4.43	187	175	-6.4%	71	67	-5.6%	0	0	0.0%
471	2.99	88	83	-5.7%	32	30	-6.3%	0	0	0.0%
485	1.48	19	18	-5.3%	8	8	0.0%	6	5	-16.7%
Totals	N/A	124,046	113,492	-8.5%	48,165	44,908	-6.8%	65,301	67,783	3.8%

Data Sources: Ohio Department of Development and Department of Transportation