

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

TECHNICAL MEMORANDUM

2040 EXTERNAL STATION FORECAST

FEBRUARY 2016

AKRON METROPOLITAN AREA TRANSPORTATION STUDY

806 CITICENTER

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AKRON, OHIO 44308

This report was prepared by the Akron Metropolitan Area Transportation Study (AMATS) in cooperation with the U.S. Department of Transportation, the Ohio Department of Transportation, and the Village, City and County governments of Portage and Summit Counties and Chippewa and Milton Township in Wayne County. The contents of this report reflect the views of AMATS, which is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official view and policies of the Ohio and/or U.S. Department of Transportation. This report does not constitute a standard, specification or regulation.

2040 EXTERNAL STATION FORECAST

Introduction

The Akron Metropolitan Area Transportation Study (AMATS) is in the process of updating its Regional Transportation Plan. The future horizon year for this plan will be 2040. One of the initial steps in this process is to forecast the number of vehicle trips that will be made in the AMATS area in 2040. This step is known as trip generation.

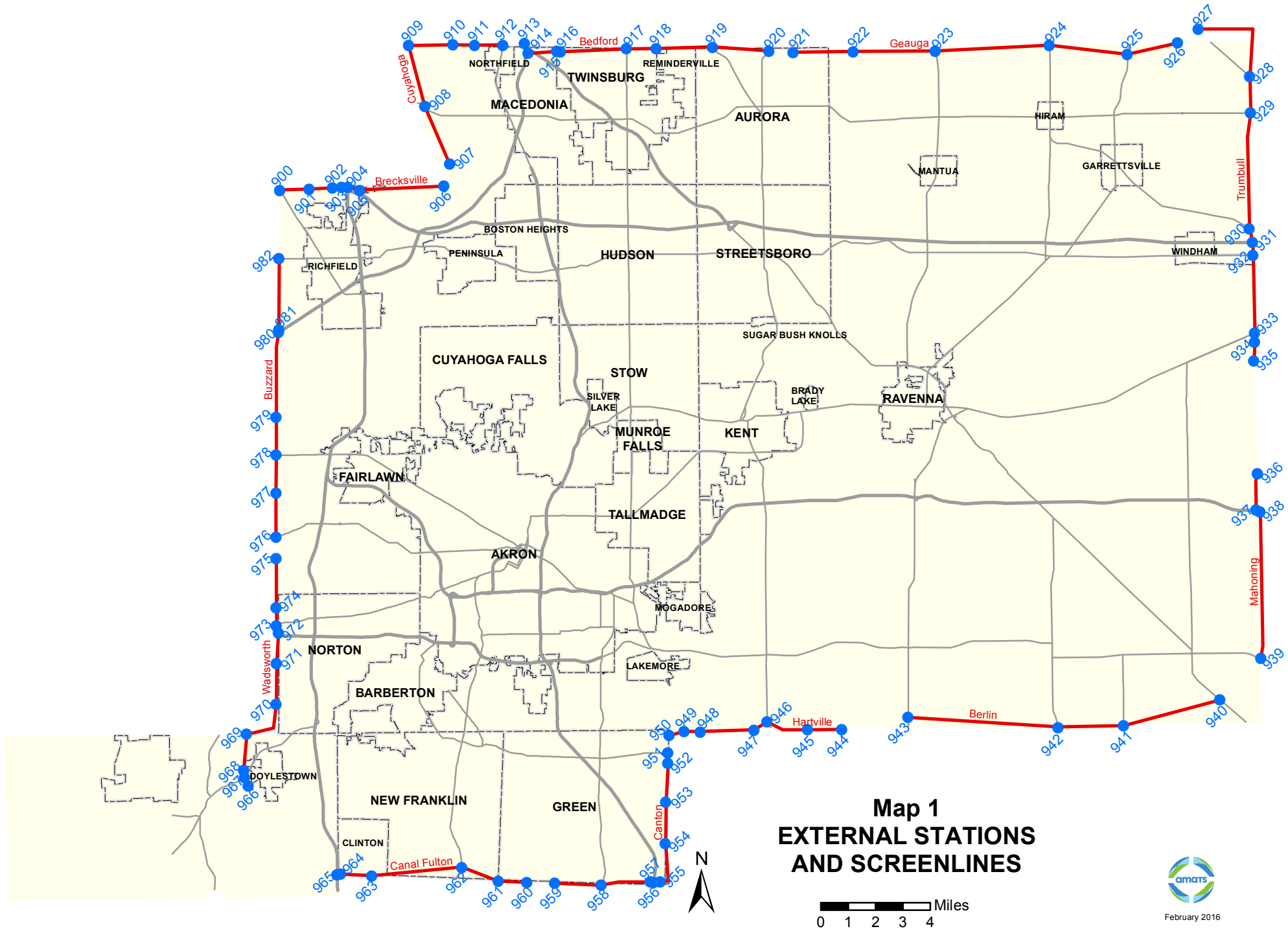
The AMATS regional travel demand model includes 83 external stations, which are shown in Map 1. An external station is located wherever a roadway represented in the regional travel demand model crosses the external boundary that separates the AMATS area from adjacent portions of Cuyahoga, Geauga, Trumbull, Mahoning, Stark, Wayne, and Medina counties. The 2040 External Station Forecast determines projected traffic volumes in the year 2040 for all 83 external stations, based on historic traffic growth trends.

AMATS' model also has 837 internal traffic analysis zones, which are areas of land usually separated by major roadways, railroads, or waterways. Future vehicle trips to and from each of these zones are estimated based on forecasted land use and socioeconomic data.

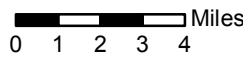
The external vehicle trips forecasted on each roadway are classified as one of two trip types (external-external or external-internal) based on the proportion of each type reported in the *Roadside External Origin-Destination Survey* that was processed by Ohio Department of Transportation in the summer of 2000. External-external trips pass through the AMATS area while external-internal trips have either an origin or destination within the AMATS area.

AMATS will use the travel demand model to combine the 2040 External Station Forecast with the estimated internal trips to forecast future traffic volumes on AMATS roadways.

The future traffic volumes will be used to determine where congestion is expected to occur in the 2040 Future Congestion Study. The future congestion results will be used to formulate possible projects to alleviate congestion in the Congestion Management Process Report. Finally, those needs will be evaluated and fiscally constrained to determine project recommendations within the 2040 Regional Transportation Plan, which is expected to be completed in the June 2017.



**Map 1
EXTERNAL STATIONS
AND SCREENLINES**



February 2016

Methodology

The AMATS regional travel demand model includes 83 external stations, which are divided into 12 screenlines, each of which includes from four to ten external stations. The purpose of dividing the external cordon into screenlines is to group adjoining external stations together based upon similar historic traffic growth trends and geographic characteristics.

The forecast is then conducted by screenline, rather than by station, so as to minimize anomalies in the count history at individual external stations. In order to develop this forecast, historic traffic counts from twelve separate years between 1970 and 2014 have been compiled. Appendix A shows the complete traffic count history at each external station location.

The methodology used to forecast 2040 screenline traffic volumes is based upon a standard linear regression analysis. In this regression analysis, the number of years that have elapsed since 1970 was used as the independent variable (x) and the total screenline traffic volume was used as the dependent variable (y). A simple least-squares regression line was then constructed for each screenline based upon the following equation:

$$y = a + bx$$

Where: y = total screenline traffic volume
 a = Y-intercept
 b = the slope of the line
 x = the number of years that have elapsed since 1970

This linear regression equation was used to forecast the total volume of traffic expected to cross each screenline in 2040. Then, the forecasted 2040 external station volumes were based on the percentage of total screenline traffic volumes that each external station accounted for in 2014. For example, if an external station comprised 25% of the total screenline traffic volume in 2014, it was assumed to comprise 25% of the total screenline traffic volume in 2040. The results of the initial external station forecast were then evaluated for reasonableness using the following information:

1. Previous external station forecasts
2. Detailed analysis of the traffic count history at individual external stations
3. Regional population and land use forecasts
4. Forecasts coordination by adjacent metropolitan planning organizations

The forecasted traffic volume for each individual screenline was also evaluated by examining the coefficient of correlation (r). The coefficient of correlation measures the strength of the linear relationship between the dependent (y) and independent (x) variables. The values of (r) may range from -1 to 1. An (r) value of 0 indicates that there is absolutely no linear relationship between (x) and (y), while an (r) value of 1 or -1

indicates that there is a perfectly direct or perfectly inverse linear relationship between (x) and (y).

Exceptions

Some of the external station locations have a limited count history; therefore, they could not be included in the standard screenline methodology described above. These stations were removed in order to calculate the screenline annual growth rate. Then, that growth rate was applied to the previously removed stations to forecast traffic volumes at these locations. The following external stations were removed to calculate screenline growth rates due to limited count history and are marked with an asterisk (*) in the tables below:

- Station 921 (Eggleston Rd)
- Station 927 (US 422)
- Station 953 (Heckman Rd)
- Station 955 (Mayfair Rd)
- Station 957 (Lauby Rd)
- Station 965 (SR 21)
- Station 966 (Portage St)
- Station 967 (SR 585)
- Station 968 (Doylestown Rd)
- Station 969 (Eastern Rd)
- Station 976 (Copley Rd)

Screenline Forecasts

As discussed previously, each external station is allocated to one of 12 screenlines. This section summarizes the 2014 traffic count (counted between 2011 and 2015), the previous 2035 forecast, and the 2040 forecast at each external station, on a screenline-by-screenline basis. The annual growth rate and coefficient of correlation (r) for each screenline are also listed for the purpose of comparison.

The 2040 forecast for the following screenlines were estimated in coordination with NOACA; therefore, growth rate and (r) are not listed: Brecksville, Cuyahoga Valley, Bedford, Geauga, Buzzard, and portions of Wadsworth and Trumbull. This includes station numbers 900-927 and 970-982.

Also, in most locations, the 2040 forecast may vary from the previous 2035 forecast. In most cases, this is due to the fact that the proportion of total screenline traffic that has been allocated to each external station has changed (i.e. the 2035 forecast was based on 2009 traffic counts and the 2040 forecast is based on 2014 traffic counts).

Brecksville Screenline

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
900	SR 176 (Broadview Rd)	4,360	5,800	5,170
901	Alger Rd	800	1,550	950
902	Townsend Rd	1,750	2,150	1,190
903	I-80 (Ohio Turnpike)	36,490	58,600	55,130
904	I-77	53,110	78,100	80,240
905	SR 21	14,900	22,700	17,680
906	Riverview Rd	1,675	3,300	1,990
	Total	113,085	172,200	162,350

Cuyahoga Valley Screenline

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
907	W Highland Rd	1,790	2,600	2,490
908	SR 82 (W Aurora Rd)	10,680	15,900	16,580
909	W Valley View Rd	7,835	11,850	11,540
910	Dunham Rd	3,895	5,050	4,860
911	Walton Rd	2,250	3,400	3,020
912	SR 8	16,920	21,950	23,450
	Total	43,370	60,750	61,940

Bedford Screenline

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
913	I-271/I-480	112,980	137,400	128,620
914	N Bedford Rd	4,310	7,350	5,530
915	Ravenna Rd	11,410	19,150	14,640
916	Shepard Rd	4,860	7,650	6,230
917	SR 91 (Darrow Rd)	11,460	25,200	17,880
918	Liberty Rd	8,025	9,450	10,080
919	SR 43	15,180	20,130	18,010
920	SR 306	11,600	15,750	13,760
	Total	179,825	242,080	214,750

Geauga Screenline

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
921	Eggleston Rd*	1,490	2,100	1,820
922	Chamberlain Rd	1,980	2,800	2,420
923	SR 44	5,890	11,700	9,270
924	SR 700	1,970	3,650	2,580
925	SR 88	1,650	2,950	2,160
926	Parkman Rd	800	1,550	1,050
	Total	13,780	24,750	19,300

Trumbull Screenline

Annual Growth Rate: 1.63%

r = 0.943

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
927	US 422*	7,860	14,550	15,220
928	US 422	11,320	18,710	16,120
929	SR 305	1,590	2,250	2,270
930	SR 82	1,910	3,490	2,720
931	I-80 (Ohio Turnpike)	36,330	49,760	51,750
932	SR 303	1,810	2,730	2,580
933	SR 5	6,240	8,940	8,890
934	Holcomb Rd	1,010	1,430	1,440
935	Newton Falls Rd	1,475	990	2,100
	Total	69,545	102,850	103,090

Please note station #927 was not estimated with the rest of the screenline. It was estimated based on NOACA & AMATS coordination.

Mahoning Screenline

Annual Growth Rate: 1.14%

r = 0.957

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
936	Mahoning Rd	500	340	650
937	I-76	33,980	43,120	44,010
938	Tallmadge Rd	3,310	3,500	4,290
939	US 224	3,630	4,170	4,700
	Total	41,420	51,130	53,650

Berlin Screenline

Annual Growth Rate: 1.47%

r = 0.868

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
940	SR 14	3,670	6,480	5,080
941	SR 225	7,400	8,680	10,240
942	SR 183	3,100	5,020	4,290
943	SR 44	6,890	9,170	9,530
	Total	21,060	29,350	29,140

Hartville Screenline

Annual Growth Rate: 1.52%

r = 0.914

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
944	Hartville Rd	1,400	1,230	1,960
945	Congress Lake Rd	1,100	1,380	1,540
946	SR 43	5,950	8,620	8,310
947	Mishler Rd	5,000	6,770	6,980
948	Portage Line Rd	2,700	3,480	3,770
949	Canton Rd	13,700	20,200	19,130
950	Sweitzer Rd	1,100	530	1,540
	Total	30,950	42,210	43,230

Canton Screenline

Annual Growth Rate: 2.25%

r = 0.944

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
951	SR 619	13,000	18,180	20,600
952	Kreighbaum Rd	1,700	2,350	2,690
953	Heckman Rd*	4,000	4,780	6,340
954	Greensburg Rd	7,910	13,260	12,540
955	Mayfair Rd*	6,920	11,100	10,970
956	I-77 *	57,860	102,000	91,700
957	Lauby Rd*	8,000	12,820	12,680
958	SR 241 (Massillon Rd)	9,950	13,240	15,770
959	Arlington Rd	3,600	5,910	5,710
	Total	112,940	183,640	179,000

Canal Fulton Screenline
Annual Growth Rate: 1.21%

r = 0.861

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
960	Christman Rd	1,000	1,390	1,310
961	S Main St	4,000	5,930	5,260
962	SR 93 (Manchester Rd)	8,300	10,530	10,910
963	Fulton St	2,300	2,960	3,020
964	South 2nd Ave	500	520	660
965	SR 21*	12,940	18,210	17,000
	Total	29,040	39,540	38,160

Wadsworth Screenline

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
966	Portage St*	1,790	1,930	2,470
967	SR 585*	9,400	13,830	12,950
968	Doylestown Rd*	1,300	1,740	1,790
969	Eastern Rd*	6,980	5,050	5,230
970	Johnson Rd	2,370	3,400	2,910
971	Greenwich Rd	6,440	4,550	7,900
972	I-76	47,210	56,550	66,570
973	SR 261 (Wadsworth Rd)	7,240	7,500	9,190
974	Reimer Rd	3,500	4,100	4,290
975	Minor Rd	2,600	3,000	3,190
	Total	88,830	101,650	116,490

Please note station #970-975 were not estimated with the rest of the screenline. They were estimated based on NOACA & AMATS coordination.

Buzzard Screenline

External Station	Route	2014 (Base Year)	2035 Forecast	2040 Forecast
976	SR 162 (Copley Rd)*	2,270	5,750	3,240
977	Ridgewood Rd	1,340	3,600	1,910
978	SR 18 (Medina Rd)	23,910	31,050	31,700
979	Granger Rd	2,550	8,450	3,620
980	I-271	29,740	39,000	40,870
981	Everett Rd	1,110	1,850	1,530
982	SR 303	3,930	9,750	5,560
	Total	64,850	99,450	88,430

Summary

In conclusion, all external station locations showed growth between 2014 and 2040. The average annual growth (2014-2040) in total traffic volume at individual screenlines ranged from a low of 1.14%, along the Mahoning screenline, to a high of 2.25%, along the Canton screenline.

Some locations show lower volumes in 2040 than those forecasted on the previous 2035 forecast. This is to be expected since 2014 counts, which were used to project 2040 traffic volumes, were sometimes lower than 2009 counts, which were used to project 2035 volumes.

However, all screenlines did show strong linear correlations, in excess of $r = 0.858$, between the total screenline traffic volume and the number of years that have elapsed since 1970 (or 1980 for the Cuyahoga Screenline). Linear correlation is based on how close the historic count trend forms a straight line when plotted by year. When the linear correlation equals 1 the straight line would connect all points on the graph. The closer the linear correlation is to 1 the more accurate the forecast is expected to be.

Table 1 summarizes the final 2040 external forecast at each station location, along with the estimated number of external-external (E-E) and external-internal (E-I) trips. The percentage of E-E and E-I trips at each external station was estimated assuming the same percentages of each trip type reported in the *Roadside External Origin-Destination Survey* which was processed by the Ohio Department of Transportation in the summer of 2000.

Appendix A summarizes the twelve separate years of historic traffic count information at each external station.

The 2040 external station forecasts contained in this memorandum are an important step in the process to produce future traffic volumes that will be used to predict future traffic congestion. Congested locations will be evaluated to form transportation alternatives for the upcoming 2040 Regional Transportation Plan.

Table 1: AMATS 2040 External Station Forecast

External Station	Route	2040 External Forecast	External-External Trips	External-Internal Trips	% External-External Trips	<i>ODOT Cordon Survey Station #</i>
900	SR 176 (Broadview Rd)	5,170	776	4,394	15%	738
901	Alger Rd	950	143	807	15%	739
902	Townsend Rd	1,190	202	988	17%	740
903	I-80 (Ohio Turnpike)	55,130	36,937	18,193	67%	741
904	I-77	80,240	30,491	49,749	38%	742
905	SR 21	17,680	6,188	11,492	35%	743
906	Riverview Rd	1,990	100	1,890	5%	745
907	W Highland Rd	2,490	374	2,116	15%	746
908	SR 82 (W Aurora Rd)	16,580	2,321	14,259	14%	747
909	W Valley View Rd	11,540	231	11,309	2%	748
910	Dunham Rd	4,860	389	4,471	8%	749
911	Walton Rd	3,020	332	2,688	11%	750
912	SR 8	23,450	2,345	21,105	10%	751
913	I-271/I-480	128,620	33,441	95,179	26%	753
914	N Bedford Rd	5,530	55	5,475	1%	755
915	Ravenna Rd	14,640	293	14,347	2%	756
916	Shepard Rd	6,230	312	5,918	5%	757
917	SR 91 (Darrow Rd)	17,880	715	17,165	4%	758
918	Liberty Rd	10,080	202	9,878	2%	759
919	SR 43	18,010	540	17,470	3%	760
920	SR 306	13,760	550	13,210	4%	761
921	Eggleston Rd	1,820	18	1,802	1%	810
922	Chamberlain Rd	2,420	24	2,396	1%	762
923	SR 44	9,270	1,298	7,972	14%	763
924	SR 700	2,580	155	2,425	6%	764
925	SR 88	2,160	238	1,922	11%	765
926	Parkman Rd	1,050	147	903	14%	766
927	US 422*	15,220	13,698	1,522	90%	768
928	US 422	16,120	15,314	806	95%	769
929	SR 305	2,270	159	2,111	7%	770
930	SR 82	2,720	218	2,502	8%	771
931	I-80 (Ohio Turnpike)	51,750	43,988	7,762	85%	772
932	SR 303	2,580	155	2,425	6%	773
933	SR 5	8,890	2,400	6,490	27%	774
934	Holcomb Rd	1,440	43	1,397	3%	775
935	Newton Falls Rd	2,100	105	1,995	5%	776

Table 1: AMATS 2040 External Station Forecast

External Station	Route	2040 External Forecast	External-External Trips	External-Internal Trips	% External-External Trips	<i>ODOT Cordon Survey Station #</i>
936	Mahoning Rd	650	52	598	8%	777
937	I-76	44,010	22,005	22,005	50%	778
938	Tallmadge Rd	4,290	472	3,818	11%	779
939	US 224	4,700	2,820	1,880	60%	780
940	SR 14	5,080	1,524	3,556	30%	781
941	SR 225	10,240	6,144	4,096	60%	783
942	SR 183	4,290	987	3,303	23%	784
943	SR 44	9,530	2,573	6,957	27%	785
944	Hartville Rd	1,960	137	1,823	7%	786
945	Congress Lake Rd	1,540	92	1,448	6%	787
946	SR 43	8,310	914	7,396	11%	788
947	Mishler Rd	6,980	140	6,840	2%	789
948	Portage Line Rd	3,770	151	3,619	4%	790
949	Canton Rd	19,130	574	18,556	3%	791
950	Sweitzer Rd	1,540	108	1,432	7%	792
951	SR 619	20,600	3,090	17,510	15%	793
952	Kreighbaum Rd	2,690	484	2,206	18%	794
953	Heckman Rd*	6,340	1,268	5,072	20%	799
954	Greensburg Rd	12,540	5,016	7,524	40%	795
955	Mayfair Rd*	10,970	3,181	7,789	29%	797
956	I-77	91,700	30,261	61,439	33%	798
957	Lauby Rd*	12,680	4,565	8,115	36%	796
958	SR 241	15,770	2,681	13,089	17%	801
959	Arlington Rd	5,710	171	5,539	3%	802
960	Christman Rd	1,310	92	1,218	7%	803
961	S Main St	5,260	105	5,155	2%	804
962	SR 93	10,910	327	10,583	3%	806
963	Fulton St	3,020	181	2,839	6%	807
964	South Second Ave	660	40	620	6%	808
965	SR 21*	17,000	8,840	8,160	52%	812
966	Portage St*	2,470	148	2,322	6%	814
967	SR 585*	12,950	2,849	10,101	22%	815
968	Doylestown Rd*	1,790	72	1,718	4%	813
969	Eastern Rd*	5,230	941	4,289	18%	816
970	Johnson Rd	2,910	116	2,794	4%	817
971	Greenwich Rd	7,900	474	7,426	6%	818

Table 1: AMATS 2040 External Station Forecast

External Station	Route	2040 External Forecast	External-External Trips	External-Internal Trips	% External-External Trips	<i>ODOT Cordon Survey Station #</i>
972	I-76	66,570	19,305	47,265	29%	819
973	SR 261 (Wadsworth Rd)	9,190	1,470	7,720	16%	820
974	Reimer Rd	4,290	472	3,818	11%	821
975	Minor Rd	3,190	383	2,807	12%	822
976	SR 162 (Copley Rd)*	3,240	324	2,916	10%	823
977	Ridgewood Rd	1,910	57	1,853	3%	824
978	SR 18	31,700	6,340	25,360	20%	825
979	Granger Rd	3,620	181	3,439	5%	826
980	I-271	40,870	31,061	9,809	76%	827
981	Everett Rd	1,530	184	1,346	12%	828
982	SR 303	5,560	1,835	3,725	33%	829

Appendix A: AMATS External Station Traffic Count History

External Station	Route	1970	1974	1976	1980	1983	1987	1990	1995	2000	2004	2009	2014	Location
900	SR 176 (Broadview Rd)	1,862	2,080	2,550	2,750	3,300	4,200	4,350	3,800	3,590	4,300	4,620	4,360	south of Luther Rd
901	Alger Rd	530	530	580	1,090	750	1,070	1,000	1,000	810	480	700	800	south of Luther Rd
902	Townsend Rd	230	230	460	400	600	910	1,000	1,000	890	880	850	1,750	county line
903	I-80 (Ohio Turnpike)	25,100	24,830	27,600	25,400	25,500	28,650	30,400	35,058	35,600	35,680	35,622	36,490	county line
904	I-77	11,849	10,270	16,160	16,550	18,700	27,400	28,300	39,100	45,960	53,950	49,310	53,110	north of I-80 interchange
905	SR 21	10,519	12,060	13,740	12,100	12,800	13,260	15,700	17,950	16,610	19,680	17,650	14,900	north of I-80 interchange
906	Riverview Rd	760	760	1,100	1,270	1,300	810	1,500	2,250	2,160	2,140	2,260	1,675	north of Columbia Rd
907	W Highland Rd	NA	NA	NA	1,060	1,100	1,250	1,750	2,000	2,540	2,240	1,910	1,790	county line
908	SR 82 (W Aurora Rd)	NA	NA	NA	7,980	8,600	9,900	10,500	11,800	10,730	13,150	13,610	10,680	county line
909	W Valley View Rd	6,580	6,580	6,500	6,220	6,200	6,250	7,150	7,750	10,490	7,730	8,760	7,835	north of Sagamore Rd
910	Dunham Rd	2,500	2,500	3,300	3,120	2,500	2,700	3,400	3,700	3,830	4,950	3,730	3,895	north of Sagamore Rd
911	Walton Rd	290	290	1,520	1,880	1,000	1,750	1,650	1,650	2,920	2,620	2,310	2,250	north of Sagamore Rd
912	SR 8	13,960	15,040	15,140	14,080	14,815	16,100	15,550	13,550	17,180	17,170	17,870	16,920	north of Sagamore Rd
913	I-271/I-480	45,700	41,670	49,030	54,750	51,050	59,750	82,400	92,400	101,760	110,600	99,640	112,980	north of I-271/480 merge
914	N Bedford Rd	2,151	2,150	1,430	2,830	2,750	2,950	3,150	3,800	4,100	4,170	3,210	4,310	county line
915	Ravenna Rd	8,419	8,410	8,355	8,580	7,750	8,400	10,250	11,300	12,770	13,130	9,100	11,410	south of Shepard Rd
916	Shepard Rd	1,820	1,820	2,700	2,160	3,550	3,400	3,750	3,750	5,610	5,800	4,860	4,860	south of Ravenna Rd
917	SR 91 (Darrow Rd)	4,630	5,370	6,500	7,600	6,850	8,560	13,800	15,050	16,030	16,050	14,540	11,460	county line
918	Liberty Rd	1,379	1,380	2,250	3,150	3,300	1,050	4,000	4,400	5,540	6,900	6,000	8,025	county line
919	SR 43	9,830	7,180	7,930	11,270	10,700	11,250	11,950	13,200	14,260	18,990	12,370	15,180	county line
920	SR 306	4,181	3,220	4,100	5,440	4,850	5,720	8,600	9,500	11,490	11,900	9,580	11,600	south of Crackel Rd
921	Eggleston Rd	NA	NA	NA	NA	NA	NA	NA	1,400	1,300	1,490	1,270	1,490	south of Crackel Rd
922	Chamberlain Rd	419	420	490	530	500	270	1,100	1,500	1,720	2,110	1,510	1,980	south of Crackel Rd
923	SR 44	2,131	2,540	2,900	3,030	3,250	4,700	4,850	5,650	5,960	6,650	6,950	5,890	south of Harner Rd
924	SR 700	1,160	1,420	1,510	1,280	1,600	1,700	2,350	1,850	2,090	1,970	2,000	1,970	county line
925	SR 88	1,589	2,080	2,200	2,080	2,650	3,550	3,800	1,850	2,110	2,370	1,710	1,650	county line
926	Parkman Rd	240	240	240	250	250	200	750	750	780	960	790	800	county line
927	US 422	NA	NA	NA	NA	NA	NA	NA	9,850	12,290	12,670	9,590	7,860	north of SR 282
928	US 422	2,800	3,270	3,140	3,200	3,640	3,600	5,200	9,200	12,100	11,610	12,330	11,320	county line
929	SR 305	1,009	1,130	1,300	1,320	1,400	2,400	2,400	2,800	1,960	2,430	1,480	1,590	county line
930	SR 82	1,889	2,080	2,200	2,100	2,100	3,250	2,850	2,550	3,490	2,790	2,300	1,910	west of Shank Rd
931	I-80 (Ohio Turnpike)	19,300	18,840	20,750	21,300	22,500	26,300	28,950	31,468	33,500	33,600	32,797	36,330	county line
932	SR 303	1,950	2,120	2,970	2,370	2,250	3,200	2,550	2,550	2,590	2,220	1,800	1,810	county line
933	SR 5	3,732	4,320	3,870	4,840	5,100	5,400	6,100	6,100	6,820	7,690	5,890	6,240	county line
934	Holcomb Rd	710	710	1,050	1,450	300	1,150	1,500	1,500	1,370	600	940	1,010	county line
935	Newton Falls Rd	951	950	850	570	1,150	950	1,250	1,050	370	840	650	1,475	west of McMullen Rd

Appendix A: AMATS External Station Traffic Count History

External Station	Route	1970	1974	1976	1980	1983	1987	1990	1995	2000	2004	2009	2014	Location
936	Mahoning Rd	290	290	220	320	250	400	650	550	340	720	240	500	county line
937	I-76	15,720	17,570	15,900	17,460	15,600	17,300	23,650	21,350	30,020	31,130	30,580	33,980	county line
938	Tallmadge Rd	2,581	2,580	3,130	3,310	3,300	3,550	3,550	2,300	3,530	2,710	2,480	3,310	east of Mahoning Rd
939	US 224	2,728	2,740	3,160	3,840	4,300	6,150	4,550	5,500	4,250	3,990	2,960	3,630	county line
940	SR 14	2,120	2,270	2,330	2,230	3,250	3,800	4,450	4,000	5,370	4,270	3,950	3,670	west of Sebring Rd
941	SR 225	2,430	2,770	3,580	4,170	3,900	5,400	5,450	5,750	7,680	7,890	5,290	7,400	south of German Church Rd
942	SR 183	2,219	1,650	1,940	2,850	3,450	2,800	3,200	3,800	3,640	3,280	3,060	3,100	south of German Church Rd
943	SR 44	4,070	5,060	5,200	4,500	5,000	5,900	6,150	5,350	6,350	6,280	5,590	6,890	county line
944	Hartville Rd	250	260	470	660	900	800	1,700	1,100	1,110	880	740	1,400	south of Pontius Rd
945	Congress Lake Rd	430	430	660	820	1,700	800	1,200	1,150	1,050	780	830	1,100	south of Pontius Rd
946	SR 43	3,400	4,400	4,840	4,520	4,800	4,800	6,300	4,900	5,430	5,340	5,180	5,950	county line
947	Mishler Rd	990	990	970	1,050	1,650	2,000	2,350	2,350	3,960	4,600	4,070	5,000	south of Pontius Rd
948	Portage Line Rd	750	750	850	1,110	1,050	2,450	2,450	3,100	3,070	4,060	2,090	2,700	south of Pontius Rd
949	Canton Rd	7,500	9,400	9,620	10,720	11,400	13,050	13,250	15,100	12,300	11,040	12,140	13,700	south of Pontius Rd
950	Sweitzer Rd	630	630	830	1,420	2,400	450	1,300	1,300	1,250	1,120	320	1,100	county line
951	SR 619	6,169	5,790	8,070	9,440	8,050	10,200	11,650	11,050	11,650	11,230	11,970	13,000	county line
952	Kreighbaum Rd	900	900	900	1,090	1,000	1,000	1,200	1,100	1,410	1,750	1,550	1,700	county line
953	Heckman Rd	NA	NA	NA	NA	NA	NA	NA	2,400	3,080	4,060	3,150	4,000	county line
954	Greensburg Rd	4,832	4,830	4,490	3,870	4,400	5,550	5,800	7,000	8,370	9,100	8,730	7,910	west of Aultman Rd
955	Mayfair Rd	NA	NA	NA	NA	1,850	2,450	3,250	6,250	7,730	9,500	7,310	6,920	north of Mt. Pleasant Rd
956	I-77	24,950	27,350	34,290	33,060	36,150	42,000	51,100	60,250	61,720	69,950	67,170	57,860	county line
957	Lauby Rd	NA	NA	NA	NA	NA	8,950	9,300	13,900	14,310	15,000	8,440	8,000	north of Mt. Pleasant Rd
958	SR 241 (Massillon Rd)	4,800	9,900	5,990	5,760	6,200	7,150	8,600	7,800	9,410	11,230	8,720	9,950	south of Mt. Pleasant Rd
959	Arlington Rd	1,150	1,150	1,490	1,880	2,150	2,550	3,450	3,750	3,630	4,240	3,890	3,600	south of Mt. Pleasant Rd
960	Christman Rd	420	420	620	750	850	1,050	1,850	1,100	1,050	1,070	940	1,000	south of Mt. Pleasant Rd
961	S Main St	1,890	1,900	2,240	2,600	2,400	3,000	3,150	2,900	3,510	4,570	3,980	4,000	south of Mt. Pleasant Rd
962	SR 93 (Manchester Rd)	5,190	5,300	6,090	5,550	6,400	6,800	7,550	7,450	8,860	8,110	7,810	8,300	north of SR 236
963	Fulton St	1,558	1,500	2,180	2,700	600	2,650	2,350	2,350	2,290	2,280	1,780	2,300	south of county line
964	South 2nd Ave	742	760	380	870	870	1,100	1,150	1,150	360	400	270	500	county line
965	SR 21	NA	NA	NA	NA	NA	NA	8,860	12,200	17,600	15,860	12,620	12,940	south of Clinton Rd
966	Portage St	NA	NA	NA	NA	NA	NA	2,050	2,050	1,840	1,890	1,440	1,790	west of Valleyview Rd
967	SR 585	NA	NA	NA	NA	NA	NA	9,100	9,250	9,320	9,770	10,340	9,400	south of Doylestown Rd
968	Doylestown Rd	NA	NA	NA	NA	NA	NA	1,150	1,000	1,380	1,310	1,300	1,300	west of SR 585
969	Eastern Rd	NA	NA	NA	NA	NA	NA	3,550	3,150	3,570	3,590	3,720	3,800	west of Clinton Rd
970	Johnson Rd	2,230	2,230	1,710	1,540	1,300	1,450	1,650	1,650	1,680	1,930	2,000	2,370	west of Medina Line Rd
971	Greenwich Rd	4,721	4,710	5,700	7,000	5,860	6,350	5,450	5,150	6,040	6,430	6,020	6,435	west of Medina Line Rd

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External Station	Route	1970	1974	1976	1980	1983	1987	1990	1995	2000	2004	2009	2014	Location
972	I-76	22,150	23,040	22,480	26,140	26,360	29,450	37,200	34,500	43,110	45,580	49,710	47,210	county line
973	SR 261 (Wadsworth Rd)	4,159	4,920	4,690	6,360	6,600	6,000	6,850	6,850	6,850	7,190	7,050	7,240	west of Medina Line Rd
974	Reimer Rd	870	870	920	1,200	1,300	1,850	1,400	2,000	2,230	3,280	3,360	3,500	west of Medina Line Rd
975	Minor Rd	590	590	470	570	800	900	800	1,400	1,510	1,950	1,630	2,600	west of Medina Line Rd
976	SR 162 (Copley Rd)	NA	NA	NA	NA	NA	NA	2,100	2,000	2,820	2,780	2,680	2,270	west of Medina Line Rd
977	Ridgewood Rd	530	530	590	620	600	800	700	1,200	1,210	1,460	1,220	1,340	west of Medina Line Rd
978	SR 18 (Medina Rd)	10,900	13,000	12,200	14,400	14,800	18,300	18,600	22,300	26,350	23,870	23,080	23,910	west of Medina Line Rd
979	Granger Rd	840	840	950	1,120	1,050	1,350	1,350	1,350	2,140	1,910	2,120	2,550	west of Medina Line Rd
980	I-271	5,460	8,700	12,410	14,570	16,500	16,250	20,800	22,350	27,360	29,470	27,110	29,740	county line
981	Everett Rd	460	460	500	680	550	1,150	650	650	920	420	930	1,110	county line
982	SR 303	2,320	2,630	2,880	3,440	3,880	5,300	4,400	5,850	5,730	6,160	5,640	3,960	county line