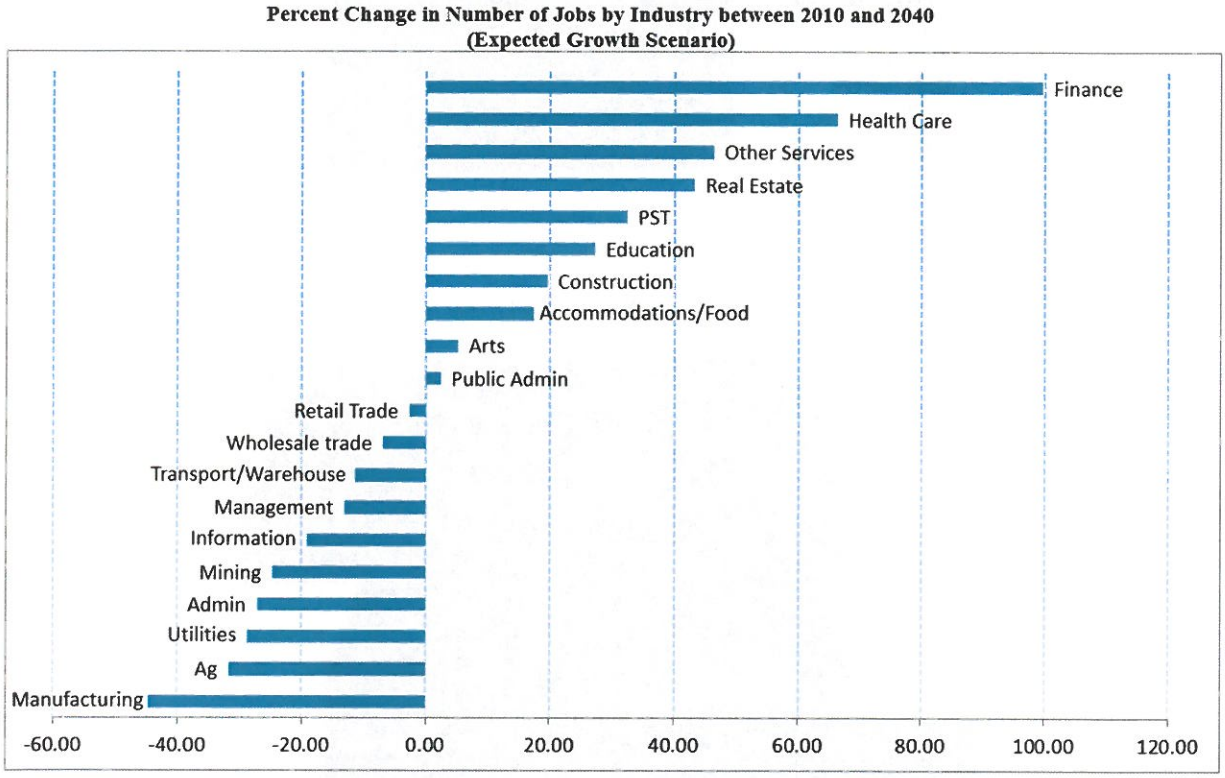
Existing Conditions and Special Studies

Socioeconomic and Demographic Trends

With the development of the travel demand model, OTO contracted with the Bureau of Economic Analysis at Missouri State University to project population and employment for 2040. These projections were done at the TAZ level for the entirety of Christian and Greene Counties, with 2010 as a base year, and projections developed for 2020, 2030, and 2040, using Slow, Expected, and High Growth scenarios. More can be found in the *OTO Travel Demand Model Summary Report-2014*.

Employment Growth

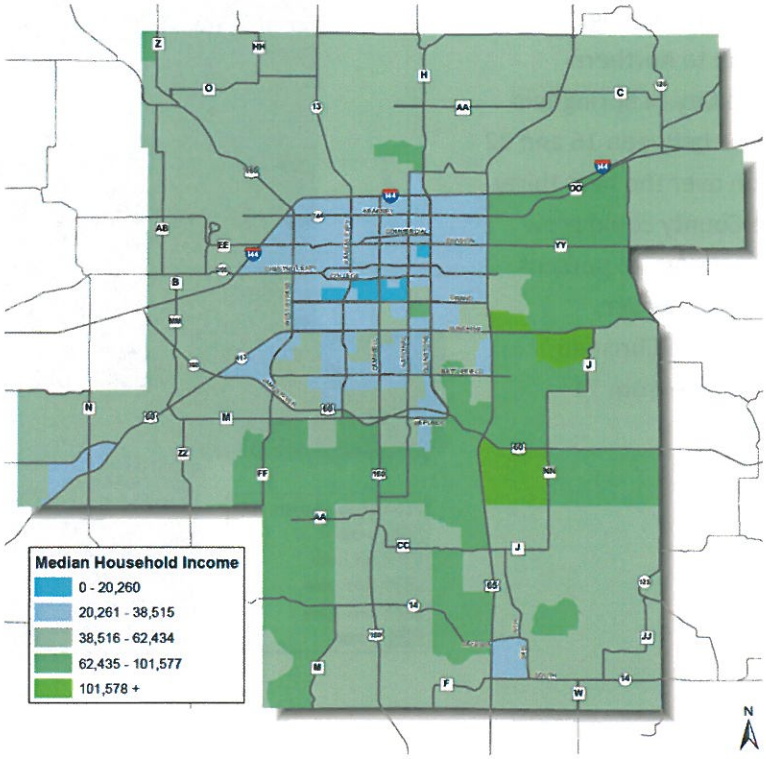
For the expected-growth scenario, Finance and Healthcare are predicted to be the fastest growing industries in the two-county region. Manufacturing and Agriculture are expected to see the largest declines.



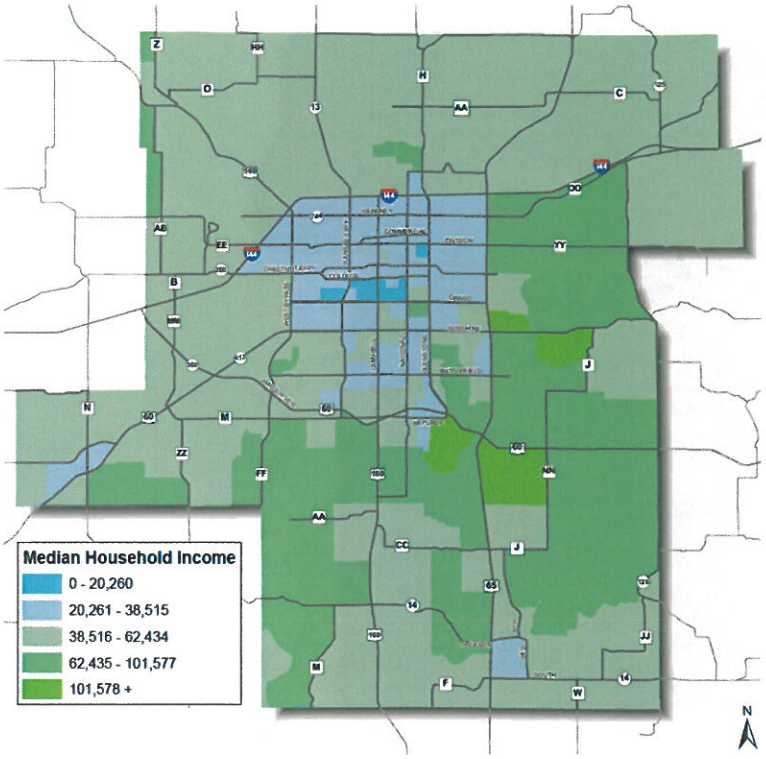
Projected employment density, however, remains strong in Springfield, with some growth seen in northern Christian County and the Republic area. The decrease in the manufacturing sector does have an impact on the future employment distribution of the OTO region, as can be seen in the northeast and northwest corners of Springfield. Employment is shown to decrease in the TAZs where the industrial parks are located. Of note, is that the employment projections for each TAZ over the next 30 years are based on the existing industries in those TAZs.

Income distribution across the region does not dramatically change.

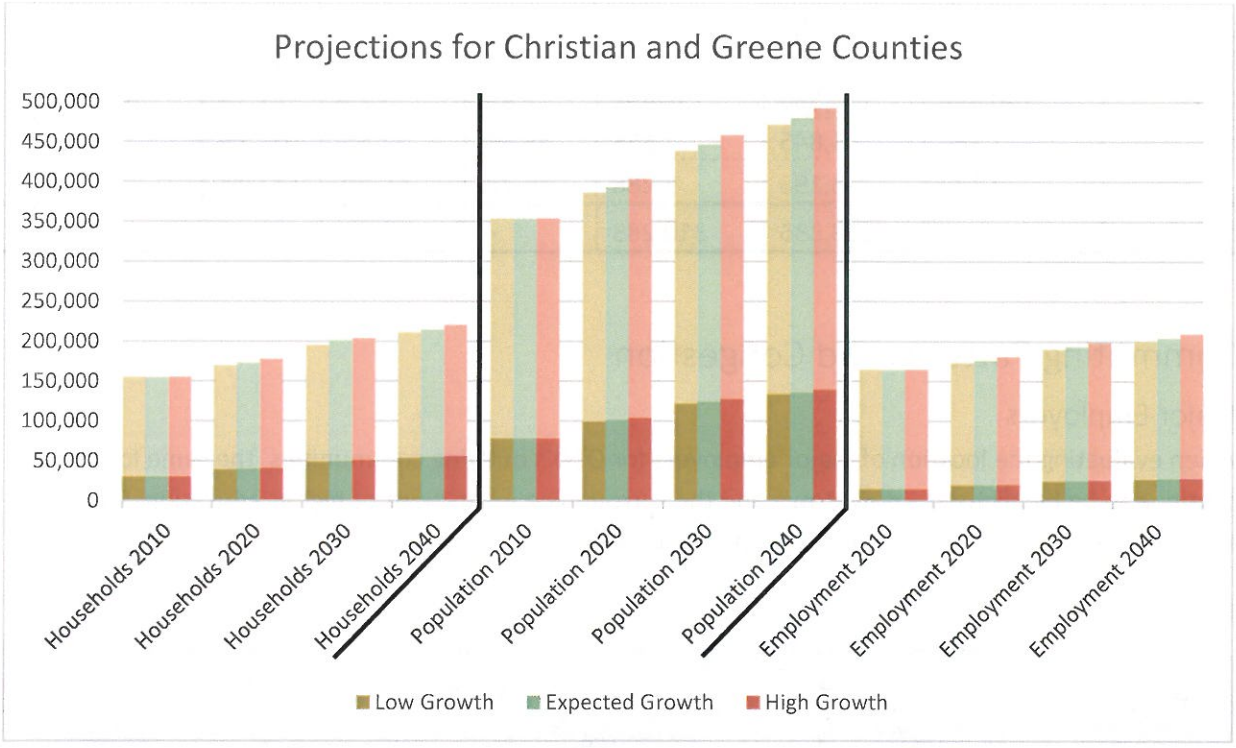
2010 Median Household Income by TAZ



2040 Median Household Income by TAZ



		High Growth			Expected Growth			Low Growth		
		All Greene	All Christian	**TOTAL**	All Greene	All Christian	**TOTAL**	All Greene	All Christian	**TOTAL**
2010	**Households**	124,873	30,114	**154,987**	124,873	30,114	**154,987**	124,873	30,114	**154,987**
	Population	275,638	77,999	**353,637**	275,638	77,999	**353,637**	275,638	77,999	**353,637**
	Jobs	149,614	14,946	**164,560**	149,614	14,946	**164,560**	149,614	14,946	**164,560**
2020	**Households**	136,375	40,886	**177,261**	132,971	39,864	**172,835**	130,655	39,166	**169,821**
	Population	299,032	103,865	**402,897**	291,563	101,271	**392,834**	286,477	99,508	**385,985**
	Jobs	160,139	20,525	**180,664**	156,134	20,015	**176,149**	153,422	19,663	**173,085**
2030	**Households**	152,628	50,892	**203,520**	151,685	49,620	**201,305**	146,219	48,751	**194,970**
	Population	330,734	127,249	**457,983**	322,464	124,069	**446,533**	316,847	121,901	**438,748**
	Jobs	172,330	25,856	**198,186**	168,029	25,213	**193,242**	165,097	24,770	**189,867**
2040	**Households**	164,037	56,161	**220,198**	159,924	54,755	**214,679**	157,134	53,800	**210,934**
	Population	352,511	139,412	**491,923**	343,694	135,929	**479,623**	337,710	133,555	**471,265**
	Jobs	181,078	28,547	**209,625**	176,560	27,835	**204,395**	173,476	27,348	**200,824**



Three growth scenarios were developed, low, expected, and high growth. There is not a large difference between the three growth scenarios. The report did not specify the assumptions used to develop the lower than expected or higher than expected growth rates. The 2040 model forecasts were developed based on the expected growth scenario.

Additional concentrations can be seen in OTO's more industrial areas. Overall, this graphic demonstrates that most of the OTO region commutes to similar locations each day for work.

Time Leaving for Work

The morning commute in the OTO region is fairly concentrated between the hours of 6:30 a.m. and 8:30 a.m., with most communities falling into a 90-minute window. The City of Nixa is the exception, with a gap from 7:30 to 7:59 a.m., and the commute picking back up at 8:00 a.m., giving Nixa the longest stretch for the morning commute. This information provides details on when and where to look for morning congestion along OTO's major corridors.

	Christian	Greene	Battlefield	Fremont Hills	Nixa	Ozark	Republic	Springfield	Strafford	Willard
Total:	35,539	126,708	2,795	312	8,715	8,453	6,868	73,106	1,052	2,351
12:00 a.m. to 4:59 a.m.	1,248	4,043	47	0	282	286	347	2,291	10	171
5:00 a.m. to 5:29 a.m.	1,007	3,010	93	0	230	326	157	1,635	57	20
5:30 a.m. to 5:59 a.m.	1,432	5,222	158	6	354	222	397	2,690	73	46
6:00 a.m. to 6:29 a.m.	3,121	7,770	127	18	685	625	546	3,665	111	293
6:30 a.m. to 6:59 a.m.	3,748	12,059	364	27	1,103	700	771	5,858	137	218
7:00 a.m. to 7:29 a.m.	7,215	18,506	599	70	1,582	1,606	1,249	8,832	169	418
7:30 a.m. to 7:59 a.m.	4,200	20,734	494	58	824	1,089	1,151	11,485	195	372
8:00 a.m. to 8:29 a.m.	3,924	14,353	196	22	1,164	994	636	8,175	69	384
8:30 a.m. to 8:59 a.m.	1,444	5,451	85	16	408	354	51	3,274	20	138
9:00 a.m. to 9:59 a.m.	2,072	7,541	54	19	373	740	247	5,192	86	11
10:00 a.m. to 10:59 a.m.	845	3,713	78	11	275	225	204	2,658	11	47
11:00 a.m. to 11:59 a.m.	397	2,697	80	0	62	93	72	2,044	8	29
12:00 p.m. to 3:59 p.m.	1,973	10,490	246	13	575	507	422	7,619	54	148
4:00 p.m. to 11:59 p.m.	2,913	11,119	174	52	798	686	618	7,688	52	56
Average Travel Time to Work	25.5	19.0	22.2	24.4	24.4	23.8	21.9	17.3	22.0	23.6

Travel Time to Work

	1980	1990	2000	2005-2009	2007-2011	2008-2012	2009-2013
Christian	24.0	27.4	25.1	24.1	24.5	24.9	25.6
Greene	17.2	17.6	19.2	19.5	19.2	18.8	19.0
Battlefield	22.1	22.6	23.1	22.7	23.1	22.1	22.7
Fremont Hills	N/A	17.0	19.8	19.7	23.6	23.2	23.8
Nixa	20.8	19.1	23.8	21.9	22.4	23.4	24.9
Ozark	21.0	19.2	21.6	22.0	23.1	23.3	23.3
Republic	20.5	21.6	25.1	23.4	22.2	22.3	21.5
Springfield	15.4	15.7	17.0	17.6	17.3	16.9	17.3
Strafford	19.2	20.4	22.4	23.0	23.7	20.8	22.1
Willard	20.6	23.2	23.0	23.8	23.1	24.8	26.1
Average of Greene/Christian	**20.6**	**22.5**	**22.2**	21.8	**21.9**	**21.9**	**22.3**
Average of OTO Cities	**19.9**	**19.9**	**22.0**	21.8	**22.3**	22.1	**22.7**

	Blue cells show improvement from prior timeframe
	Red cells show decline from prior timeframe
	White cells show no change from prior timeframe

	PM Peak Total		
	2005	2008	2012
Miles 20+ mph below speed limit	18.37	46.23	48.93
Total Travel Time Mileage	264.27	354.8	339.48
Percent Significantly Delayed	7%	13%	14%

Reliability

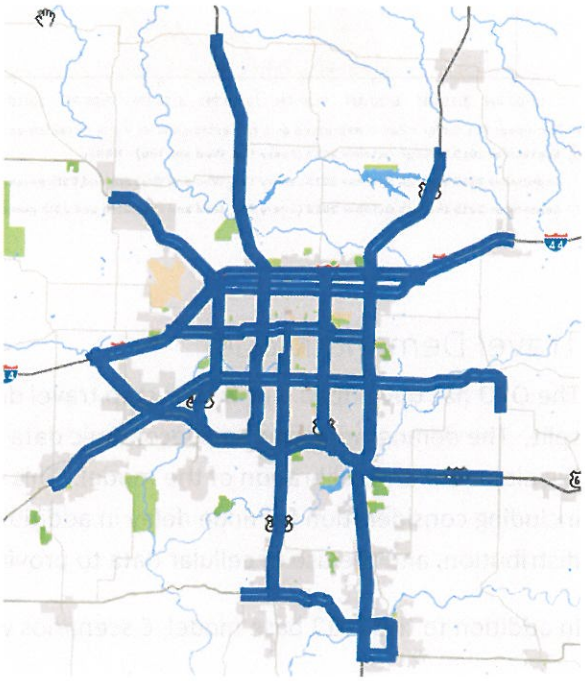
Since *Journey 2035*, OTO has increased access to data about the region's roadways. This includes data from HERE, which uses over 100 sources and billions of GPS probe points to create its traffic data. This information is available through RITIS (Regional Integrated Transportation Information System) at the University of Maryland CATT (Center for Advanced Transportation Technology) Lab.

Buffer Index

A number of factors provide information for travel along a roadway. To compare these measures across roadways, they must be length neutral. For example, travel time becomes the travel time index and planning time becomes the planning time index. The travel time index is "travel time represented as a percentage of the ideal travel time (travel time/free-flow travel time)," while the planning time index is "the total travel time that should be planned when an adequate buffer time is included (95% travel time/free-flow travel time) [1]." The buffer index, on the other hand, is the buffer time's percent of the average travel time. Buffer time is "the extra time that travelers must add to their average travel time when planning trips to ensure on-time arrival," so the Buffer Index is the "(95% travel time – average travel time)/average travel time [1]." The Buffer Index increases the worse reliability gets.

In the OTO

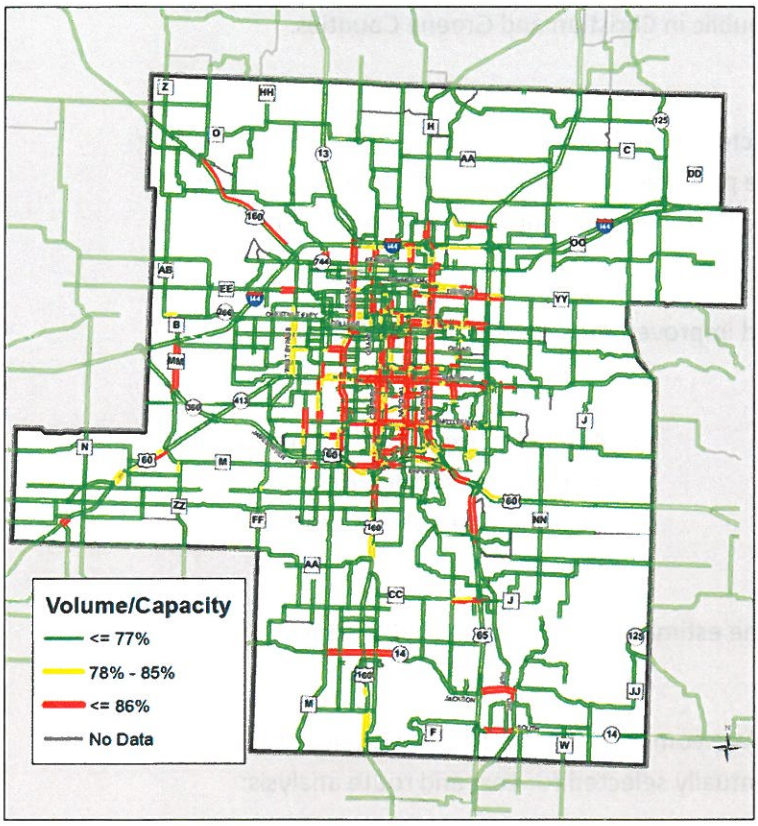
The highlighted roadways in the graphic to the right were used for analysis. For typical workdays in September and October 2015, the northbound roadways in the OTO region are the least reliable, especially in the AM Peak. The eastbound roadways echo this pattern, though with less severity. The westbound roadways show a more pronounced daylong higher buffer index, as well as a PM peak issue. Reliability differs from delay in that it speaks to the unpredictability of travel time along a roadway.



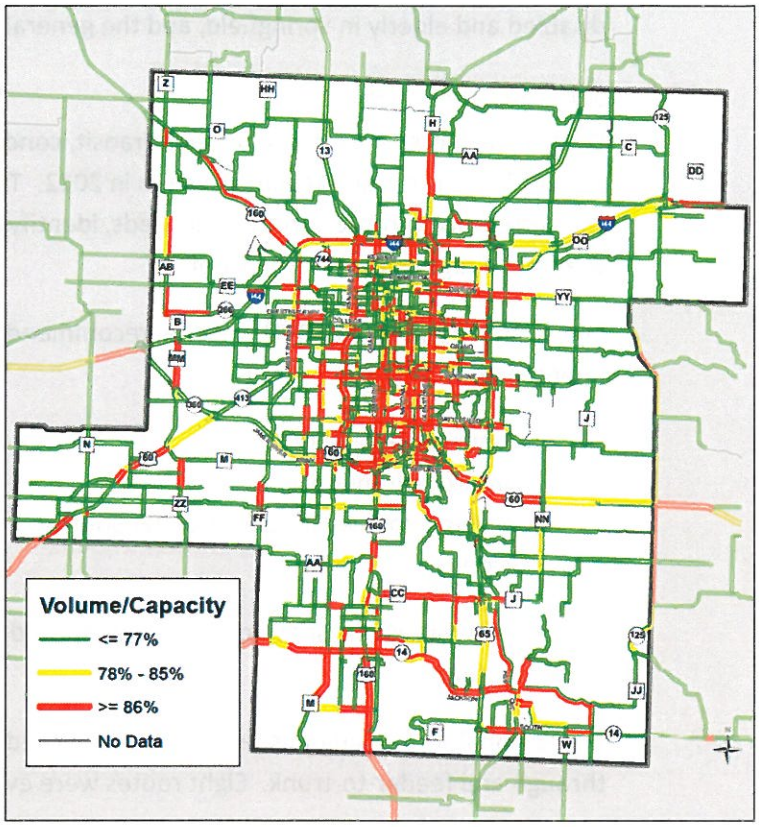
1) 2030 Existing plus Committed Network
2) 2040 Existing plus Committed Network
3) 2040 Regionally Significant Projects
4) 2040 Fuel Price Increase
5) 2040 Transit Share Increase
6) 2040 Southwest OTO Projects

Below is a comparison of the Base scenario and the 2040 Existing plus Committed (no-build) scenario. A report outlining the complete model results can be found in the appendix.

2012 Base Year



2040 Existing plus Committed Network



Compared to the base year, congestion on OTO's arterials is more widespread. The existing plus committed improvements appear to have eased congestion on U.S. 65 south of James River Freeway, but time has added more congestion north of James River Freeway. Congestion deepens for Ozark south of CC on U.S. 65. Traffic is more proliferated along Highways 14 and CC in Christian County and increases are seen on U.S. 160 through and south of Nixa. U.S. 60 heading southwest from Republic also sees an increase in congestion.

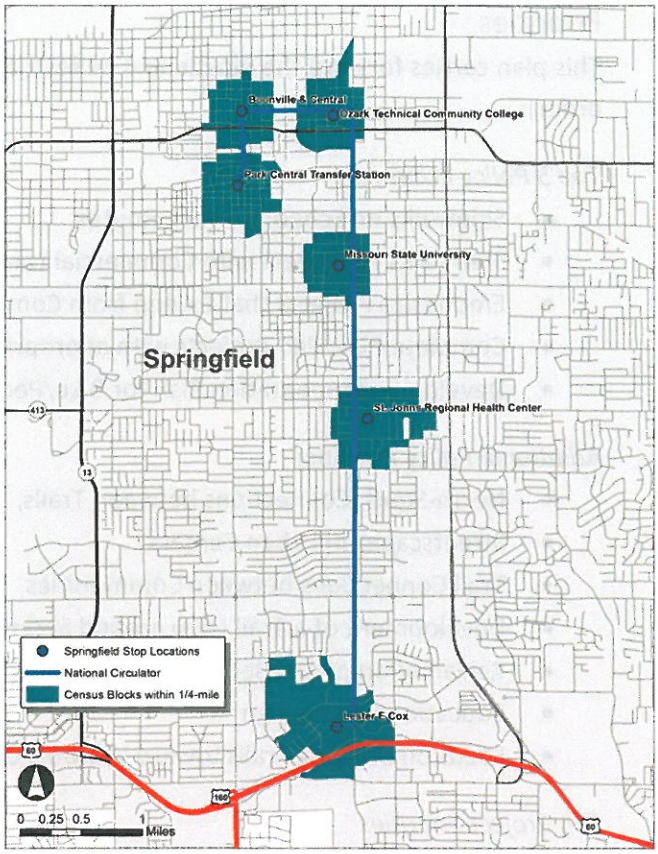
Transit

Providers

City Utilities is the primary fixed-route transit operator in the OTO region. Fixed route service is provided within the City of Springfield seven days a week. City Utilities also offers paratransit service for

From this plan, the Limited Stop Circulator has received the most attention as feasible. Using National, this route connects the Medical mile with MSU, OTC, Government Plaza and the downtown Transfer Station. The new transfer station at Main and College was not finalized at the time of this study, but that should not impact the findings related to this proposed route.

This route and variations on it are receiving additional attention through the City of Springfield's Impacting Poverty Initiative. Corresponding to the Major Employers Hot Spot maps seen earlier in this Chapter, this route should effectively serve the public's needs.



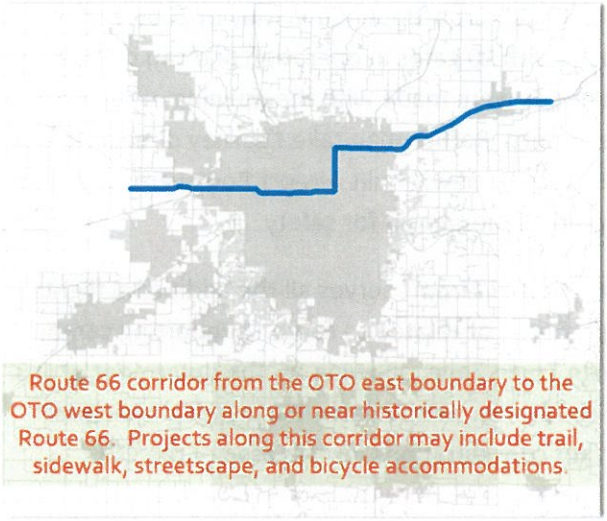
Bicycle and Pedestrian Planning

Planning Efforts

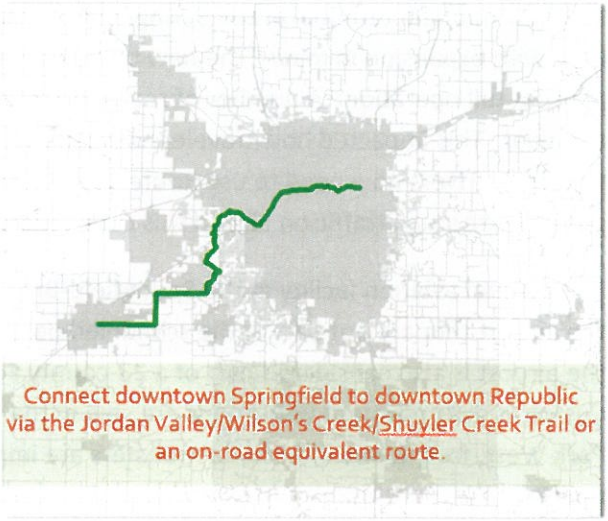
OTO has an active Bicycle and Pedestrian Planning program, with guidance from the OTO Bicycle and Pedestrian Advisory Committee. In addition to the bicycle and pedestrian measures in the OTO Performance Measures Report, a report is produced annually that highlights bicycle and pedestrian activities in the region as they relate to the 5 Es (Engineering, Encouragement, Enforcement, Evaluation, and Education).

Inventory

OTO strives to maintain an inventory of bicycle and pedestrian facilities in the OTO region. This includes an annual review of new sidewalk construction and working with member jurisdictions to catalogue existing bike routes and trails. This base data feeds the OTO Performance Measures Report, the Bicycle and Pedestrian Annual Report, and serves as the background for the Existing and Future Bicycle and Pedestrian Facilities Map, which is included in the Range of Alternatives Chapter.



Route 66 corridor from the OTO east boundary to the OTO west boundary along or near historically designated Route 66. Projects along this corridor may include trail, sidewalk, streetscape, and bicycle accommodations.



Connect downtown Springfield to downtown Republic via the Jordan Valley/Wilson's Creek/Shuyler Creek Trail or an on-road equivalent route.

Route 66

1) Strafford Trail – Sports Complex to Washington Avenue
2) Strafford Trail – Washington Avenue to Partnership Drive
3) Partnership Drive to Glenstone
4) Glenstone, from Kearney to St. Louis
5) St. Louis, from Glenstone to National
6) St. Louis, from National to Kimbrough
7) Complete from Kimbrough to Market
8) College, from Market to Kansas
9) College, from Kansas to Chestnut Expressway
10) Chestnut Expressway, from College to West Bypass
11) Chestnut Expressway, from West Bypass to I-44
12) Chestnut Expressway (266), from I-44 to OTO West Boundary

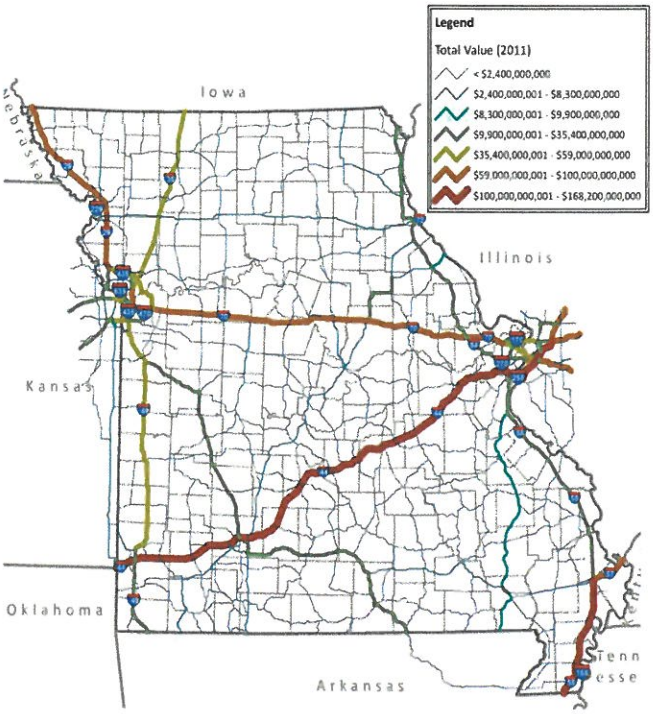
Southwest Trail (Creeks Trail System)

1) Jordan Creek, from Cedarbrook to Sherman
2) **Complete** from Sherman to Campbell
3) Jordan Creek, from Campbell to Fort
4) Jordan Creek, from Fort at West Meadows to Mount Vernon w/Alternate
5) **Complete** from Mount Vernon to Hillcrest
6) Wilson's Creek, from Hillcrest Ave to Rutledge Wilson
7) **Complete** from Rutledge Wilson to Farm Road 156
8) Wilson's Creek, from Farm Road 156 to South Creek
9) **Complete** from South Creek to M Highway
10) M Highway, from Wilson's Creek Greenway to ZZ
11) ZZ, from M to Farm Road 182
12) Farm Road 182, from ZZ to Kentwood/Lee
13) **Complete** from Lee to Cherrywood
14) Trail from Cherrywood to RR on Route 174
15) Route 174 Multi-Use Trail – Under Construction

Aviation and Goods Movement

Aviation

The main air facility in southwest Missouri is the Springfield-Branson National Airport. This is the primary air connection to the national and international markets. The region also has a private aircraft airport, the Downtown Airport, which coupled with the general aviation facility at the Springfield-Branson airport, serves the charter and private aircraft needs for the community.



The Missouri State Freight Plan identifies the most congested trucking bottlenecks in Springfield. The rail system through the OTO region is congested as well, receiving a Level of Service F for a good portion of the rail system in Springfield and traveling to the south and east.

The recommendations from the Missouri State Freight Plan that fall within the OTO boundary will be considered alongside other priorities for consideration in this plan.

Source: CDM Smith, ATRI, ESRI