

CROSSROADS II

Marshall Report 996



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EXECUTIVE SUMMARY

Lake County is already experiencing a traffic congestion problem. By the year 2020, when its population is projected to increase by at least 250,000, traffic congestion will likely be significantly worse. This report is the second installment in a study called **Crossroads: Smart Transportation Options for Lake County**, which is commissioned by the Environmental Law and Policy Center and Citizens Organized for Sound Transportation. The study is carried out by Resource Systems Group, Inc. and the University of Illinois at Chicago. It uses advanced transportation modeling to examine the impact of various possible transportation improvements on traffic congestion levels in Lake County.

The first installment of **Crossroads**, released in 1997, demonstrated that the State could relieve traffic congestion levels in the year 2020 14% more by simply carrying out the existing plan to upgrade local roads in Lake County than by building the proposed new \$1.2 billion Route 53 tollroad. In other words, building a 25-mile, six-lane extension to Route 53 would increase traffic congestion by 14%.

In this second installment, we now examine the impact of proposed transit improvements on Lake County traffic congestion levels. We tested a package of transit improvements that are, again, included in the State's official transportation plan. They include installing a second track on the Wisconsin North Central commuter rail line, building a portion of the Elgin Joliet and Eastern circumferential commuter rail line, and increasing bus service.

Our modeling demonstrates that implementing these transit improvements would reduce traffic congestion by an additional 5%, on top of the reductions from the already-planned local road improvements. Thus, carrying out the transit and local road improvements together would lead to about 19% less traffic congestion than building Route 53. (All of the scenarios we modeled include the same package of local road improvements, because it is not realistic to assume there will be no local road improvements in the next 20 years, especially in a county whose population is growing as fast as Lake's. The Route 53 scenario, therefore, also assumes the same improvements to local roads.)

Building Route 53 would increase traffic congestion for several reasons. First, it would lead to approximately 60,000 additional new Lake County residents in the year 2020, and more people means more trips on local roads. Second, Route 53 would lead to longer trips, because the new residents it would attract would disproportionately live far from where most jobs are located. Third, a major new highway like Route 53 concentrates traffic around its interchanges, which often causes severe congestion.



OVERVIEW

A major new toll road, Route 53, is proposed to be constructed in Lake County, Illinois. The Environmental Law and Policy Center retained a team of Resource Systems Group Inc. and the Department of Civil and Materials Engineering of the University of Illinois at Chicago to evaluate alternatives to the toll road. This team developed a state-of-the-art computer model of the transportation system. The advanced features of this model, and its advantages over the Chicago Area Transportation (CATS) transportation model, are documented in a previous report: *Route 53 Alternatives Study: Lake County Model Description* (October 1997).

An initial set of results showing traffic conditions in the year 2020 in Lake County with and without the Route 53 Tollway is documented in *Route 53 Alternatives Study: Analysis of 2020 Lake County Traffic Levels With and Without the Route 53 Tollway* (October 1997). This report presents a second set of results, extending the study to examine the impacts of improved transit.

The analyses are based on population and employment forecasts prepared by the Northeastern Illinois Planning Commission (NIPC). These population forecasts show an additional 60,000 residents in Lake County in the year 2020 if the Route 53 Tollway is built. This total is over and above the 250,000 additional people expected between 1990 - 2020 without construction of Route 53. NIPC also forecasts 4,000 additional jobs with the Route 53 Tollway. However, the population growth is concentrated in northwestern Lake County, and the employment growth in southeastern Lake County.¹

The impacts of this additional and more decentralized population and employment on traffic congestion levels were evaluated using the transportation model. Because of the extremely large increase in population assumed, it was necessary to increase highway capacity throughout the region. We were conservative, and used the improvements assumed in the Chicago region's earlier Regional Transportation Plan, the "2010 plan." All of the scenarios we tested include these improvements, which we refer to as "local road improvements."

In the Route 53 scenario, there are many more trips, and longer trips, than in the local roads scenario. Although Route 53 carries a large volume of traffic, traffic volumes would be higher and traffic congestion would be worse in the year 2020 if Route 53 were constructed than if it were not built.

This report documents the 2020 scenarios used in the analyses, and examines the impacts of Route 53 on traffic and congestion in Lake County.

¹ NIPC attributes these population and employment increases to a package of projects including Route 53, widenings of existing highways, and transit improvements. For reasons explained in the next section, we believe that substantially all of these increases are attributable to Route 53.



This report has four sections. The first section is this overview. The second section describes population and employment projections used for the transportation analyses. The third section describes the transportation scenarios. The fourth and final section summarizes the results.

POPULATION AND EMPLOYMENT PROJECTIONS

In this section we address the NIPC population and employment forecasts that we input into our transportation modeling. We also explain why the population increase that NIPC forecasts for Lake County for a package of highway and transit projects is attributable more or less entirely to the proposed new Route 53.

NIPC PROJECTIONS

Traffic forecasts in this report are based on regional population and employment projections made by NIPC using the DRAM/EMPAL land use allocation model. NIPC's projection cases include Base and RTP (Regional Transportation Plan) transportation networks and two airport scenarios. The "Base" case includes only committed transportation projects. The "RTP" case assumes the construction of Route 53 in Lake County, as well as highway widening and transit improvements throughout the Chicago region. We have used NIPC's projections that assume no third regional airport will be built, and that expansion at O'Hare and/or Midway will satisfy demand. Regional population and employment control totals are identical in all of NIPC's projections.

The 2020 Regional Transportation Plan (RTP) documentation lists the objectives of developing the NIPC projections:

The scenarios were developed to address three objectives. The first objective was to inform the transportation plan development process about the transportation impact of land use policy. The second objective was to provide the NIPC growth policy development process with, first, information about the impacts of transportation investment, including airport development, on land use objectives, and second, with a basis upon which to engage the region's leaders in a discussion about regional directions. The third objective was to provide NIPC with the basis for the discussion of municipal forecasts with local officials in the suburban region.²

Our use of the forecasts follows NIPC's second objective – bringing information about the impacts of transportation investment on population and employment into the planning process.

Population in Lake County is forecast to be 60,000 higher for the RTP projection than for the Base (Figure 1). The employment impacts of the RTP projection are much smaller. Building the RTP package of projects would add only about 4,000 jobs to Lake County in the year 2020 (Figure 2).

² Chicago Area Transportation Study. *Destination 2020 Planning Process*. Chicago, IL, August 1997.



Figure 1: NIPC Population Forecasts for Lake County in the Year 2020

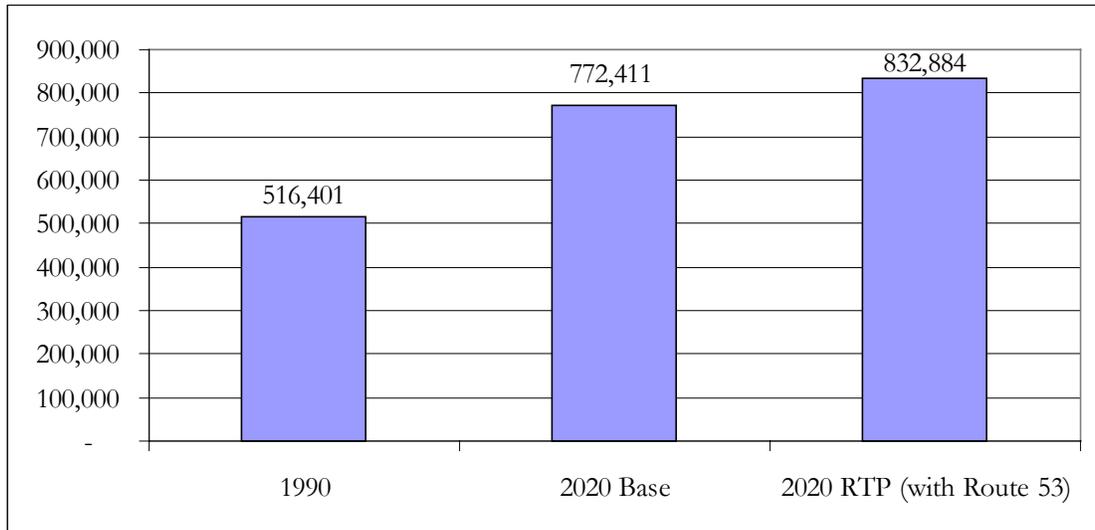
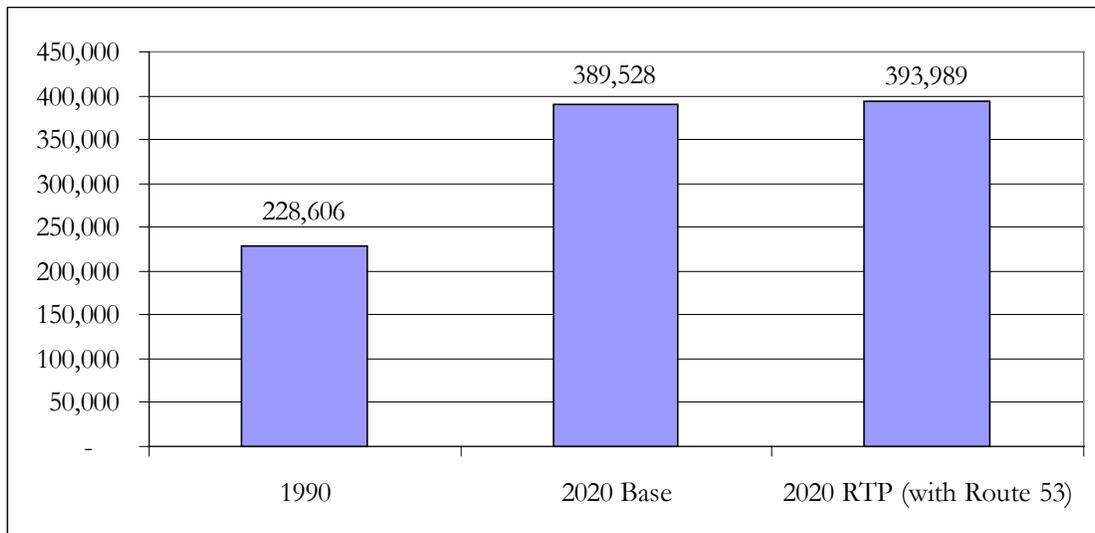


Figure 2: NIPC Employment Forecasts for Lake County in the Year 2020



In Figures 1 and 2, NIPC forecasts shown do not include construction of a new south suburban Airport.



A central question concerning the impacts of the Route 53 Tollway is how much of the population and employment growth in NIPC's RTP projection is attributable to Route 53. The Base projection includes all existing and committed projects. The RTP projection includes everything in the Base projection plus specified major highway and transit projects. In Lake County, the most significant new project in the RTP projection is the Route 53 Tollway. Other projects include double tracking the North Central commuter rail line, building part of the circumferential E. J. & E. commuter rail line, and adding lanes to 3 miles of the Tri-State Tollway. The RTP projection also includes certain unlisted improvements to the Strategic Regional Arterials (SRA) and Strategic Regional Transit (SRT) system spread throughout the Chicago metropolitan region.

RTP documentation includes forecasts of users for each of the major highway and transit projects in the year 2020. We have assigned these users to one or more counties (Table 1), based on the location of the improvement. Cook County is split between the City of Chicago and rest of the county. Based on this assignment, users of the projects in the 2020 RTP were assigned to County as shown in Figure 3. Figures 4 and 5 show population and employment changes that result from these projects.

REGIONAL SHIFTS RESULTING FROM RTP

We must use expert judgment and common sense to determine how much of the population and employment change in NIPC's RTP projection should be attributed to Route 53. We draw the following conclusions from the information summarized in Figures 3, 4, and 5.

- 1) Although the RTP includes substantial investments for both highways and transit, the shifts in travel behavior resulting from the highways are much greater. Furthermore, most of the new transit use is in the City of Chicago.
- 2) Population shifts with the RTP are from the most densely settled areas of Cook and DuPage Counties and towards suburban areas in Lake, McHenry, and Kane Counties. The biggest increases are in Lake County and adjacent areas of McHenry County.
- 3) This shift is driven by Route 53. Comparing Will County to Lake County shows that transit and widenings of existing highways are much less important. In Will County, a new radial commuter rail line produces more new transit ridership than for Lake County, and lanes are added on I-55, I-57, and I-80. Yet, Will County's population is lower with the RTP than in the Base projection.
- 4) The City of Chicago has higher employment in the RTP scenarios, resulting partly from transit projects in the City and increased transit and highway service to the City. However, the largest percentage gains in employment are in northwest Cook County and southeast Lake County which appears due to Route 53.

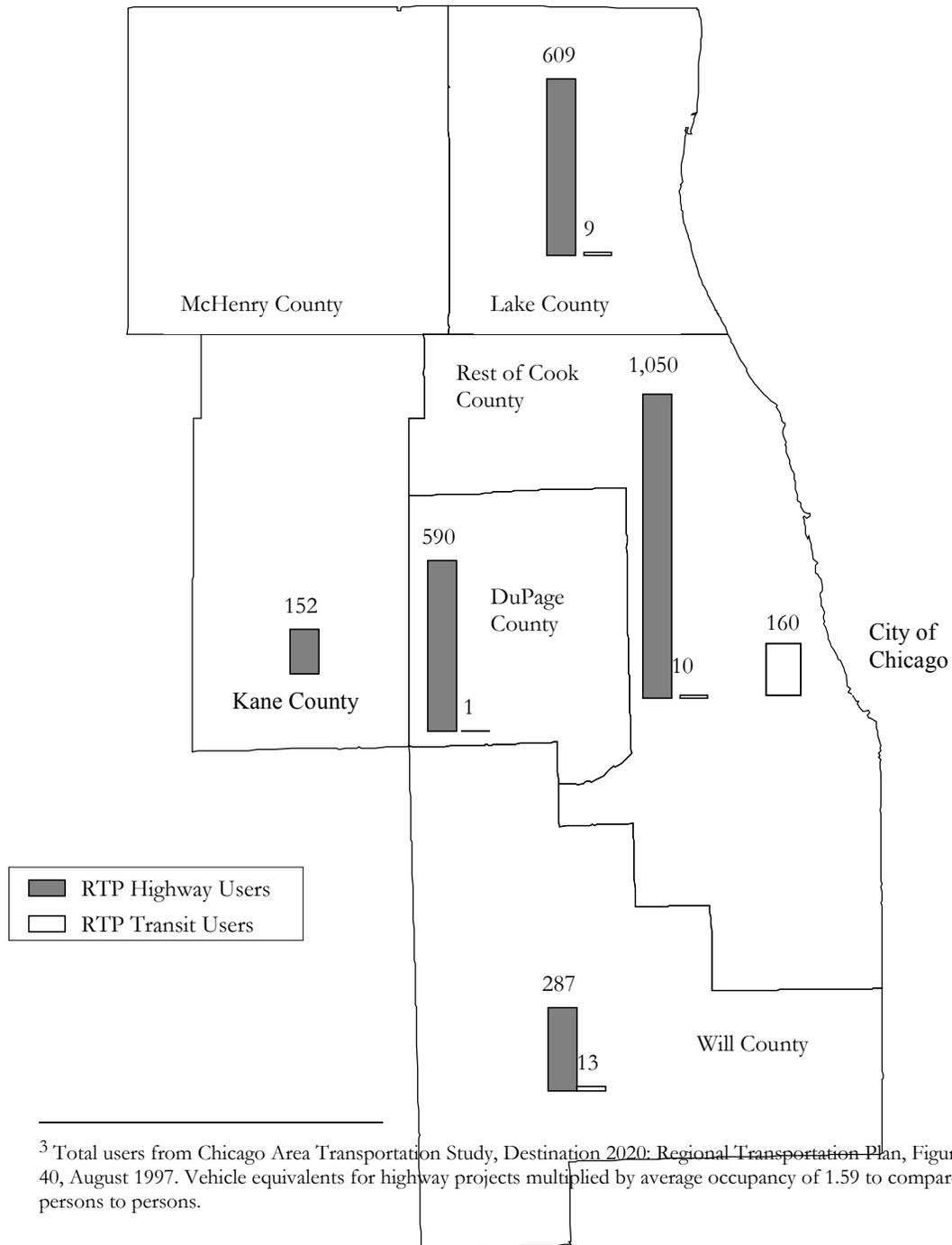


Table 1: Major RTP Projects – Percent of Project Assigned to County and City of Chicago

Project Name	2020 Users (daily transit riders or vehicles/day)	Category	Chicago	Cook - rest	DuPage	Kane	Lake	McHenry	Will
North Central Service Enhancements	7,800	Transit					100		
Outer Circumferential CR Corridor	3,900	Transit		33	33		33		
Mid-City Transitway	95,300	Transit	100						
Orange Line Extension	31,500	Transit	100						
Red Line Extension	33,600	Transit	100						
South Suburban CR Corridor	21,400	Transit		40					60
I-55 Add Lanes	69,000	Highway							100
IL 53 Extension	328,000	Highway					100		
I-94 Add Lanes	55,000	Highway					100		
I-90 Add Lanes	57,000	Highway				100			
I-90 Add-Lanes (2)	97,000	Highway		100					
I-294/O'Hare Bypass/Elgin/O-Hare Ext.	487,000	Highway		50	50				
Elgin-O'Hare Expressway	75,000	Highway		50	50				
I-88 Add Lanes	129,000	Highway			70	30			
I-294 Add Lanes	93,000	Highway		100					
I-80 Add Lanes	82,000	Highway							100
I-80/94 Add Lanes	74,000	Highway		100					
I-57 Add Lanes	59,000	Highway		50					50
IL 394 Add Lanes	54,000	Highway		100					
I-290 HOV Lanes	N/A	Highway		100					
I-57/I-494 Interchange	32,000	Highway		100					

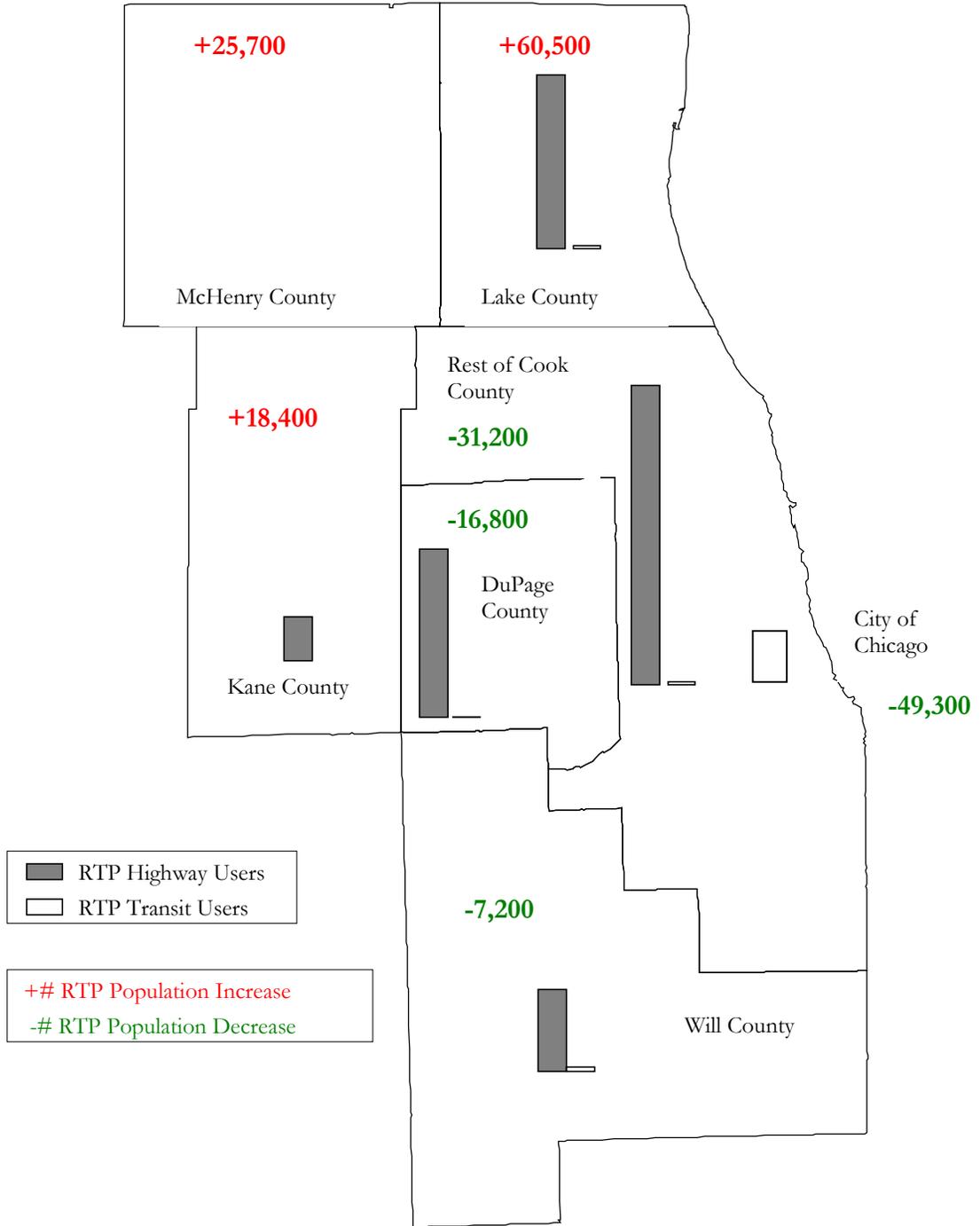


Figure 3: 2020 Weekday Users of Major Highway and Transit Facilities in the 2020 Regional Transportation Plan (Thousands)³



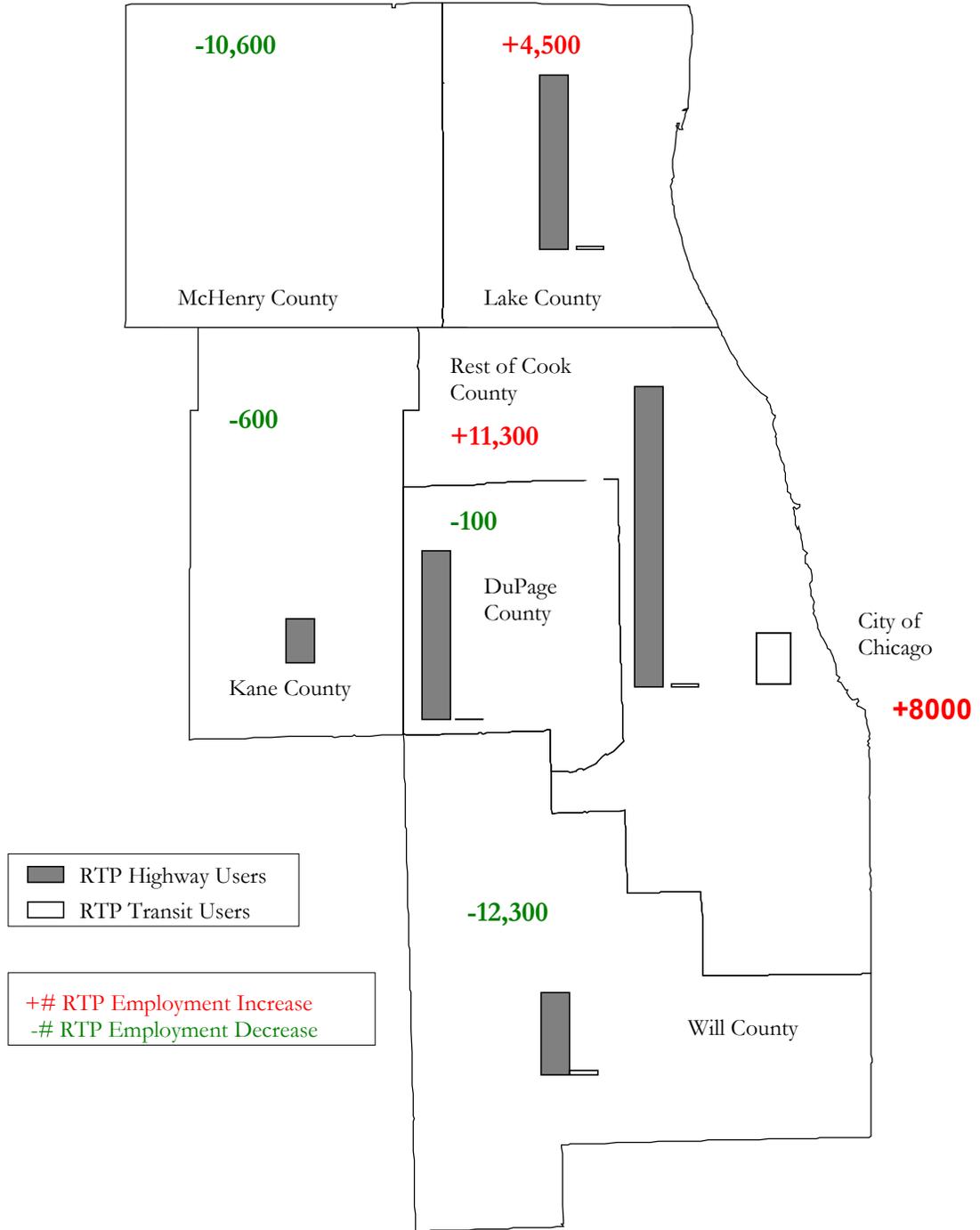
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Figure 4: 2020 Population Difference in RTP Projection Compared With Base, Both With Existing Airports (2020 Weekday Users Column from Figure 3 Included)



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Figure 5: 2020 Employment Difference in RTP Projection Compared With Base, Both With Existing Airports (2020 Weekday Users Column from Figure 3 Included)



NIPC's public hearing release describes population and employment changes with the implementation of the RTP:

A comparison of either one of the RTP alternatives [with and without a Peotone airport] with its baseline or "no-build" counterpart demonstrates the forecasted impact of further investment in the region's transportation network. Building the facilities tends to reduce growth in the Cook County population, with the exception of northwest Cook County, while increasing the populations of McHenry and northern Lake Counties. This result suggests that the addition of both highway and rail capacity serving the outer parts of the region enables people to continue to move their homes outward - the prevalent market pattern in the post-war era - while commuting to areas that are and will continue to be job-rich.⁴

We agree except to add that the effects of the highway projects are much greater than the effects of the rail projects. In Lake County, the estimated number of daily users of the Route 53 extension is estimated to be about 50 times the number of the new Lake County transit users.

SUB-COUNTY POPULATION AND EMPLOYMENT EFFECTS

The regional forces discussed above cause varied impacts within counties. The RTP shifts population towards northwestern Lake County and into McHenry County (Figure 6). However, with the RTP there are fewer jobs in these same areas.

Grayslake illustrates these patterns. It is located at the center of the Route 53 project, which would add increased roadway capacity not only to the south, but also to the east and west along the new Route 120. Grayslake area population is higher and employment is lower in the RTP projection. In our transportation modeling of the RTP case, residents of northwestern Lake County and McHenry County use the new Route 53 and Route 120 to commute to jobs in Cook and DuPage Counties and also to jobs in the Tri-State Tollway corridor in southeast Lake County.

These sub-county effects support the conclusion drawn from the regional patterns – the major driver of the population and employment differences between NIPC's Base and RTP projections is Route 53 and associated Route 120.

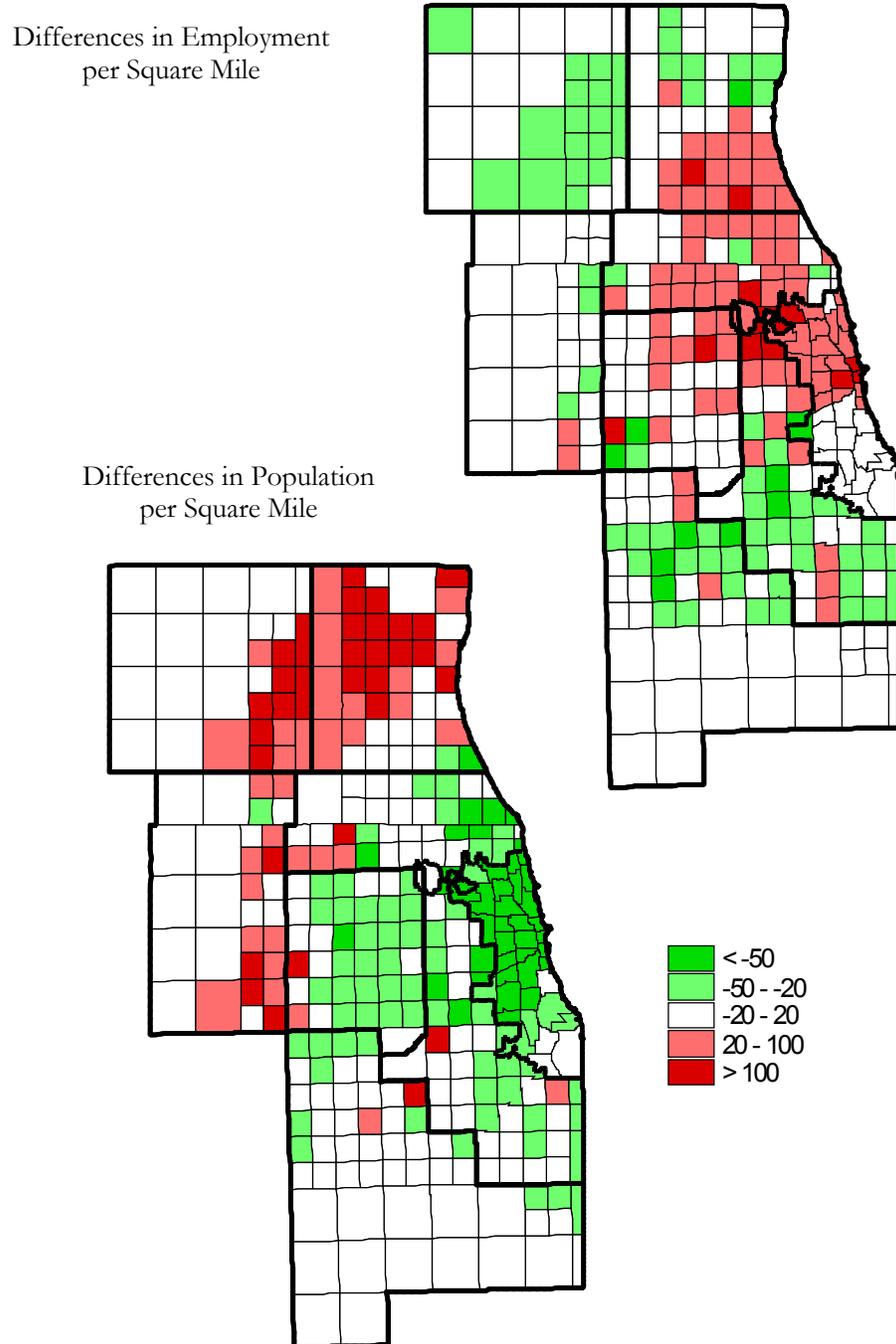
APPLICATION OF POPULATION AND EMPLOYMENT PROJECTIONS IN ROUTE 53 ALTERNATIVES ANALYSES

Lake County's population is 60,500 greater in NIPC's 2020 RTP projection than in the 2020 Base projection. For the reasons discussed above, Route 53 is by far the largest driver of the changes in population and employment in NIPC's RTP projection. We therefore attribute 60,500 new Lake County residents to Route 53 for purposes of our modeling.

⁴ Northeastern Illinois Planning Commission. Public Hearing Draft Population, Household and Employment Forecasts for Counties and Municipalities in Northeastern Illinois. Chicago, IL, 1997.



Figure 6: Differences in Households and Employment Between 2020 RTP and Base Projections at DRAM/EMPAL Zone Structure



This is not the same thing as saying that the Lake County transit and highway widening projects in the RTP would not attract any new residents. They do, just as the transit and highway widening projects in other metropolitan counties attract some new residents to those counties. However, these projects - unlike Route 53 - are spread more or less evenly throughout the region. For that reason, they effectively “cancel each other out” in terms of attracting significant numbers of new residents to one county or another.

Putting this differently may help clarify the point. If no RTP projects were constructed in Lake County but all of the other RTP projects in the region were constructed, Lake County would be relatively less attractive than in the Base projection, and Lake County’s population in the RTP projection would be lower than in the Base. In this case, the non-Lake County RTP projects would pull growth elsewhere relative to the Base case, possibly towards Will County.⁵

Therefore, the total Lake County population difference between “all RTP projects” and “no Lake County RTP projects” is greater than 60,500. The remainder of the difference between “all RTP projects” and “no Lake County RTP projects,” beyond 60,500, is attributable to the Lake County highway widening and transit projects in the RTP. In attributing a 60,500 population increase to Route 53, therefore, we are not assuming that improving transit and widening existing highways in Lake County will attract no new residents. They will. However, because these kinds of projects will be implemented throughout the Chicago metropolitan area, for each new resident that they attract to Lake County who would otherwise have lived in, say, Will County, the similar projects in Will County will attract a resident who would otherwise have lived in Lake County.

TRANSPORTATION SCENARIOS

In this section, we explain the different transportation scenarios – with and without Route 53, and with and without transit improvements – that we have modeled, and we summarize the results on traffic congestion in Lake County.

The scenarios with Route 53 are analyzed in conjunction with NIPC’s RTP population and employment projections. The scenarios without Route 53 are analyzed with the Base projections. For the reasons discussed above, we believe this is appropriate. The inclusion or exclusion of transit projects could make some difference in future population and employment, but it is difficult to separate these effects from much larger highway impacts. We therefore applied the most appropriate NIPC projection to each scenario without modification.

⁵ In Will County, I-355 is extended from I-55 south to I-80 in both the Base and RTP projections. Additional RTP elements include new South Suburban Commuter Rail service, and lane additions to I-55, I-80, and I-57 (totaling about 40 miles in Will County). This clearly represents a more significant capacity increase than in Lake County (not including Route 53). However, Will County has less population growth in the RTP projection than in the Base. This demonstrates that the Route 53 project is unique in the RTP, and dominates the regional results.



LOCAL ROADS ONLY

All of the scenarios we have modeled are for the year 2020. The first scenario includes a package of improvements to Lake County local roads, but does not include Route 53 or other major projects in the 2020 Regional Transportation Plan.

Lake County residents are concerned about current levels of congestion. The NIPC projections include up to a 61 percent increase in Lake County population over 1990 levels. Further, these increases are not allocated uniformly, but rather are concentrated in areas with limited highway capacity. The current roadway system could not function with this level of population, nor would Lake County residents tolerate this level of growth without significant transportation infrastructure improvements.

A functioning roadway system is also important for the evaluation of the proposed Route 53. No one will begin or end a trip on Route 53, which would be a limited access highway. Instead, traffic would have to use the existing road network to travel to and from the Tollway. As demonstrated in the following Results section, the growth in local roads traffic with the Route 53 population and employment scenario is so significant that it could not be accommodated without substantial local roads improvements. Otherwise, access to Route 53 would be too limited for the Tollway to serve Lake County motorists with any degree of effectiveness.

Development of our own detailed local roads improvement plan lies beyond the scope of this study. Instead, we derived improvements for our study from the 2010 Regional Transportation Plan developed by CATS.⁶ In other words, our year 2020 analysis assumes only those road improvements that the state's official Regional Transportation Plan assumed would be in place in the year 2010. We believe that this approach is conservative in terms both of cost and of the assumed level of improvements, given that NIPC has forecast a much higher population in Lake County in 2020 than in 2010.⁷

CATS included significant transportation improvements in the computer files used by their transportation model for the 2010 Regional Transportation Plan. We have used these computer files in our own work. These are coded as increases in roadway capacity. Significant increases in capacity are generally a result of widening. Lake County capacity improvements in the CATS computer files are summarized in Table 2 and are shown in Figure 7.

Our modeling yields the following results for the local roads only scenario:

Vehicle miles of travel (VMT) is a system-wide indicator of traffic levels. Afternoon peak hour VMT is forecast to increase by 63 percent in the 2020 local roads only scenario, relative to 1990.

⁶ Chicago Area Transportation Study. FY 1996-2000 Transportation Improvement Program: Conformity Analysis Documentation. Chicago, IL: February 1996.

⁷ The 2010 networks were used rather than 2020 networks in order to be conservative. Also, our Lake County Model was developed before the 2020 Regional Transportation Plan was published.



Traffic congestion is measured using the volume to capacity ratio, or “v/c,” of Lake County roads. In this calculation, “volume” represents the number of vehicles per hour on a road, and “capacity” represents the maximum number of vehicles per hour that could be accommodated. As volume approaches capacity, traffic flow becomes “stop and go.” Indicators of congestion are commonly expressed in terms of “lane miles” to give added weight to more important facilities. A single mile of road with two lanes in each direction has a total of four lane miles – two in each direction.

Even with the local road improvements incorporated in the local roads only scenario, the number of severely congested lane miles increases by 116 percent. Traffic is forecast to increase much more than roadway capacity.

ROUTE 53 AND LOCAL ROADS

The Route 53 and local roads transportation scenario includes all of the local road improvements shown in Figure 7 and Table 2. The only difference is that it also includes the Route 53 project, including Route 120.

Relative to the 2020 local roads only scenario, VMT is higher in the Route 53 and local roads scenario by 16.5 percent. This increase in VMT might be acceptable if traffic growth were limited to the new roads and congestion were relieved. However, the number of severely congested lane miles also increases, by 13.7 percent, relative to the base scenario.

Figure 7: Local Road Improvements Used in All 2020 Scenarios – From CATS 2010 Regional Transportation Plan



Table 2: Major Roadway Capacity Improvements in CATS 2010 Long Range Transportation Plan

Roadway	Length of Section (miles)
RT 22	19.6
RT 45	15.0
RT 173	11.4
RT 59	10.1
Old RT 120	10.0
RT 83	5.8
I-94	5.8
RT 21	4.3
RT 41	3.6
Other	22.4
Total	108.0

Note: Widening done in both directions.

How could a roadway aimed at alleviating congestion actually increase congestion? The answer to this question involves a combination of three system-wide effects.

First, the additional 60,500 people that Route 53 will attract to Lake County will make many trips. Some of these trips use Route 53, but most do not. These new trips more than cancel out the benefits of shifting trips by other residents onto Route 53. Although Route 53 and Route 120 are forecast to be heavily used, the total VMT on these roads is only 94 percent of the total increase. The rest of the increased VMT represents increased travel on existing roads. Thus, on average, traffic on Lake County roads in the year 2020 would be higher with construction of Route 53 than without.

Second, this increase in traffic also is partly a result of the decentralized growth and separation of population and employment to which Route 53 would lead, as shown in Figure 6 above. Route 53 causes increased concentration of jobs in existing job centers in Cook County and southeast Lake County. In contrast, it encourages population growth in northwest Lake County and McHenry County.

Table 3 below shows average trip lengths for trips beginning and/or ending in Lake County by trip purpose for 1990 and for the two 2020 scenarios. In the Route 53 scenario, average trip lengths for all trip types are longer than for the local roads only scenario. In addition to adding to congestion, this increase in trip lengths with Route 53 means increases in travel time, travel cost, and the environmental impacts of travel such as air pollution

Third, highways concentrate traffic around their interchanges, both directly and also indirectly by encouraging land development. This focusing of traffic often causes severe congestion.



Table 3: Average PM Peak Hour Auto Trip Length By Trip Purpose for 2020 Scenarios (miles)

	1990	2020 Local Roads	2020 Route 53
Work to Home	16.78	17.06	18.28
Home Origin	5.95	5.83	6.23
Nonwork to Home	5.98	5.84	6.08
Neither End at Home	9.64	9.34	9.86

TRANSIT AND LOCAL ROADS

Without public transportation Chicago would need 2,424 miles of new freeway, the equivalent of 110 lanes of combined Dan Ryan/Kennedy Expressway or 12 new highways⁸

Transit can not serve all trips in suburban areas. However, it already serves an important role in travel in Lake County, and this role could be expanded. Removing even a small portion of traffic from roadways can reduce congestion and reduce the need for expensive and disruptive highway construction projects.

Work trips are tightly clustered into the morning and afternoon peak commuting periods. They are longer on average than non-work trips. Most auto commutes are made driving alone. It is important for transit to serve both work and non-work travel, but work travel has a disproportionate impact on peak period congestion.

In 1990 (the last year for which comprehensive data are available), 5.4 percent of Lake County workers used rail or bus to get to work. For Lake County residents commuting to Cook County, 12.1 percent used transit.

Lake County’s transit commuting is in the middle of the range for the Chicago collar counties. In DuPage County in 1990, 7.1 percent of workers commuted by transit. For DuPage County commuters to Cook County, the transit share was 17.8 percent. These data suggest that the transit share for Lake County commuters could grow.

The 2020 RTP includes major transit projects and Strategic Regional Transit (SRT) projects. In Lake County, the major projects are double tracking the North Central commuter rail line and building part of the circumferential E. J. & E. commuter rail line.

Our transit and local roads scenario includes the North Central commuter rail line improvements, a portion of the E.J.& E. commuter rail line, and increasing bus frequencies in Lake County. Like all of the other scenarios, this one includes local road improvements.

⁸ *Dollars and Sense*. Donald Camph, Aldaron, Inc. for Campaign for Efficient Passenger Transportation, 1997.



Relative to the local roads only scenario, VMT is reduced in the transit and local roads scenario by 3.8 percent. The number of severely congested lane miles decreases by 4.6 percent.

Thus, transit improvements can effectively contribute to reducing traffic volumes and congestion in Lake County.

ROUTE 53 AND TRANSIT

The Route 53 and Transit scenario combines the two scenarios described above

This scenario has effects on traffic and congestion that are intermediate between those produced by the separate scenarios. Lake County VMT increases by 11.7 percent relative to the local roads only scenario, and the number of seriously congested lane miles increases by 4.0 percent.

Thus, while adding transit improvements would reduce somewhat the increased traffic and congestion that the new Route 53 would cause, traffic and congestion levels are lower still if the transit improvements are made without building Route 53.

On average, travel times in Lake County increase with Route 53. Here are two specific instances. The first trip is west along Route 22 from Route 21 to Lake Zurich, a distance of 16.3 miles. Afternoon travel times are longer with Route 53 (Figure 8). The second trip is from Grayslake at the intersection of Route 45 and Center Avenue (just north of Route 120) up Routes 45 and 132 to Sand Lake Road in Lindenhurst. This trip is 10.6 miles. Again, travel times are longer with Route 53 (Figure 9).

Figure 8: Travel Times Increase With Route 53 – Route 22 from Route 21 to Lake Zurich

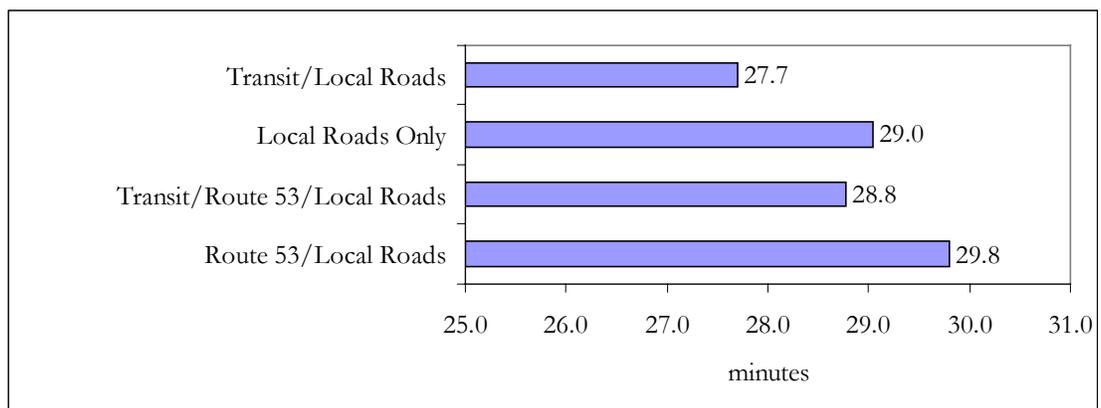
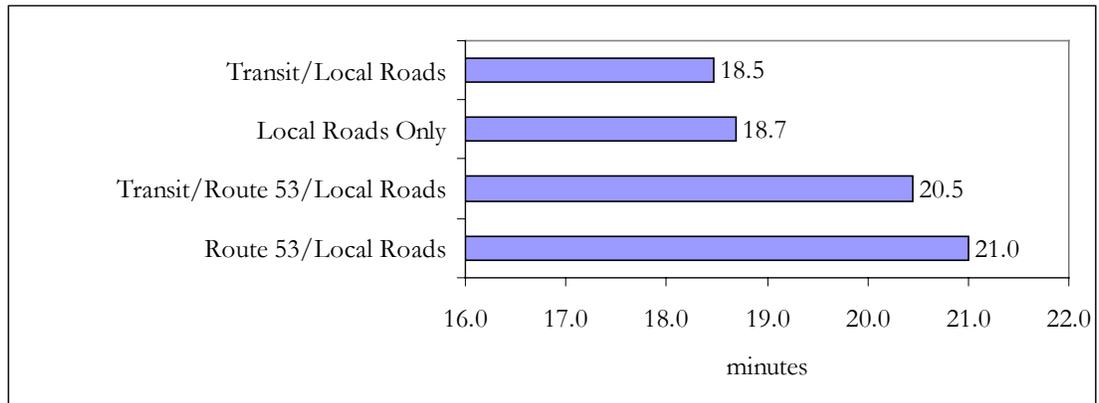


Figure 9: Travel Times Increase With Route 53 – Grayslake to Lindenhurst



SUMMARY OF RESULTS

This report presents a second set of results for the year 2020. Four scenarios are analyzed:

- 1) local roads improvements,
- 2) Route 53 plus identical local road improvements,
- 3) transit, plus identical local road improvements, and
- 4) transit, Route 53 and identical local road improvements.

The analyses are based on population and employment forecasts prepared by the Northeastern Illinois Planning Commission (NIPC). Traffic forecasts were developed using a state of the art computer model of the regional transportation system.

The two Route 53 scenarios produce more traffic and more congestion than corresponding scenarios without Route 53 (Figures 10 and 11). There are more auto trips, and these trips are longer. Although Route 53 carries a large volume of traffic, traffic volumes on local roads would be higher and traffic congestion would be worse in the year 2020 if Route 53 were constructed than if it were not.

This conclusion is founded on NIPC's land use forecasts of greater and more decentralized population and employment with Route 53.

The conclusion is relatively independent of the transportation system improvements assumed. The local road improvements used were conservative, based on the 2010 Regional Transportation Plan. They would not be sufficient to prevent congestion in Lake County from getting worse. If either a greater or lesser level of improvements were assumed, we would expect that the transportation model would produce the same results -- congestion would be worse with Route 53 and its associated population growth than without it.



Figure 10: Percent Change in VMT Relative to 2020 Local Roads Scenario

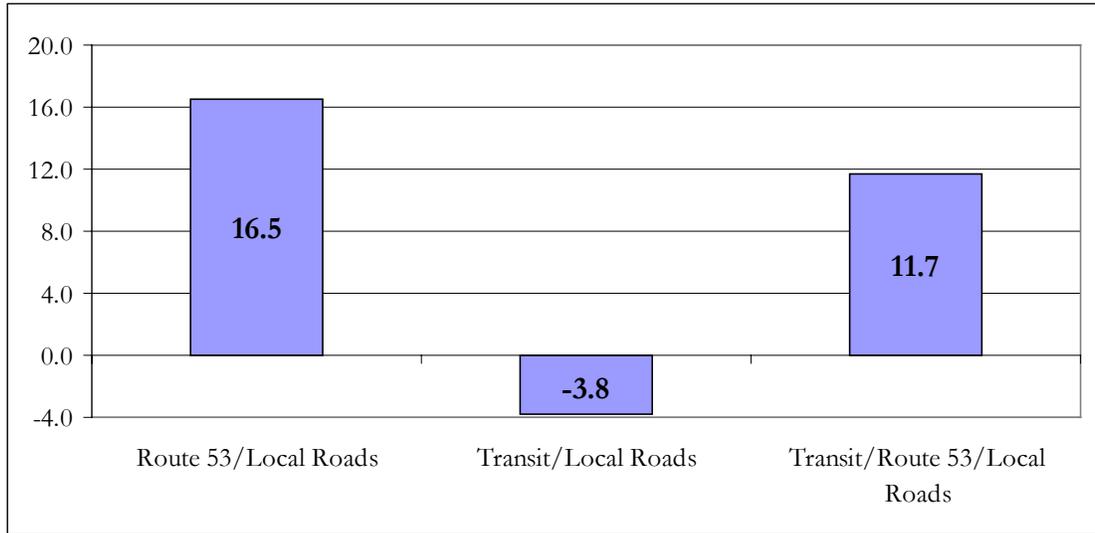


Figure 11: Percent Change in Severely Congested Lane Miles Relative to 2020 Local Roads Scenario

