Chapter 4
Future Needs

This chapter is focused on identifying the future needs of the transportation network. Chapter 6 will then identify the most cost-effective strategies for addressing these anticipated needs based on available funding identified in Chapter 5.

As identified in Chapter 1, several needs can be observed on DuPage County's transportation network today. Most of these existing needs have emerged as the result of economic and demographic changes that occurred over the last 10 to 20 years. As the county continues to grow and develop over the next 20 years, new needs will arise, and existing needs may shift. With all of the recent and continuing changes in the world and in DuPage County, it is difficult to anticipate how the county will transform over the next 20 years. Technology is changing the way we navigate, what we drive, and how we drive. It is also changing how we construct a road and the materials we use. Nowhere is technological change seen more than in traffic signal systems and how our vehicles interact with infrastructure. Furthermore, at some point in the next 20 years, autonomous electric vehicles and connected vehicles may become prevalent causing significant changes to the future of mobility.

As noted in Chapter 1, the growing diversity within the population of DuPage County and the surrounding area also changes the mobility needs within the population today and into the future. In addition, new data and research has redefined the planning community's understanding of the connections between equity and transportation planning. Thus, equity considerations will play a larger role in shaping the focus of transit and transit financing.

All of these potential changes in mobility present a high level of uncertainty about the future of mobility. As part of the Long-Range Transportation Plan, staff is obligated to review and consider the possible implications of these trends. However, the county cannot plan for every potential future outcome. Thus, a set of reasonable assumptions is used to identify the demographic and economic shifts that are most likely to occur. These assumptions are based on historic, recent, and existing trends and presented in more detail in Section 4.1.1 (**Table 4- 1**). Economic and technological factors are also considered in Chapter 5 where changes will likely have significant effects on revenues and costs, challenging the County's capacity to complete large capital programs.

The first two sections of this chapter provide the future growth and network assumptions included in the model development. The third section provides an overview of the resulting 2040 traffic demands on the network. The last section discusses future needs related to access to alternative modes of transportation, including transit and bicycle/pedestrian trails; modes that cannot be assessed within the framework of a travel demand model. The four sections are:

1. Future growth assumptions
2. Committed and programmed projects

3. Identification of future capacity needs
4. Other needs (including transit, trails and non-motorized transportation, and bridge improvements)

Chapter 6 will then present how the identified needs are prioritized and funded based on the goals and objectives laid out in Chapter 2.

4.1 2040 Traffic Model Process and Assumptions

The DuPage County Travel Demand Model was initially developed for the County's Comprehensive Roadway Improvement Plan (CRIP) in 2000. The model has been updated three times since 2000 to reflect changes in various aspects of the transportation system and new land use patterns. To increase the model's granularity and improve its ability to assess trips at the county-level, additional data elements were added and refined including additional consideration for truck trips, trips to O'Hare Airport, and Metra station trips. For this Long-Range Transportation Improvement Plan, the model was updated and calibrated based on actual traffic speed and count data collected in 2015.

The model is based on the traditional four step process which includes land use, trip generation, trip distribution, and trip assignment. Trip generation is a process by which trip origins and destinations are estimated based on the assemblage and type of land uses in a zone, and demographics (including automobile ownership, income, age, and population characteristics). Trips between the model area and the remainder of the region are incorporated into the model based on CMAP data and information supplied by the Tollway and State for regional expressways. As noted above, trip generation was also developed for special uses such as airports, regional malls, and federal facilities such as Argonne National Laboratory. Special counts were conducted which contributed to the knowledge base of the model. A special truck trip generation model was also developed in 2010 and augmented in this model iteration. It is especially valuable in industrial and airport areas.

Trip generation is then parsed by trip type (i.e., work trips, non-work trips, non-home-based trips, truck trips, etc.). Each trip type has a trip distribution profile that is consistent with known trip lengths throughout the region. These profiles are applied to the trips generated by the land uses in a zone to estimate the overall distribution and impact of the land use.

Trips are balanced and then assigned to the network in the final step of the model process. Assignment is guided using the attributes of the network such as highway capacity, speed limits, special delay and turn limitations. In the base year, 2015, the assignments are compared against the known daily and peak period traffic on select "screenlines." The model network and select factors are adjusted within reason to "calibrate" the base year model. Future year forecasts use this combination of trip generation and distribution information—applied to new network and land use conditions—to forecast traffic. A more detailed paper on the model and modeling process is included in **Appendix 4-A.**

The following sections present additional details on the inputs and assumptions incorporated in model development. They are presented in three sections:

1. Future Trends and Assumptions – assumptions addressing the uncertainties surrounding changing technology and demographics.

2. Land Use Assumptions – expected land use changes approved by the county board and the associated trip generation rates.[1]

3. Committed and Programmed Projects – the planned future transportation network, which included capacity improvements that are currently programmed or committed within existing plans.

4.1.1 Future Trends and Assumptions

As noted in the Introduction, the many recent technological and demographic shifts present a great deal of uncertainty about the future. For most, the potential implications are still not fully understood and thus, cannot yet be modeled or incorporated into future plans. Thus, the county had to adopt a set of assumptions related to these trends and the most likely traffic impacts through 2040. It is the County's intention to continually improve how and what is modeled in order to adjust our programs to reflect changing and emergent needs of the traveling public. **Table 4- 1** below summarizes the assumptions that are addressed through this plan and are incorporated into the future system analysis.

Table 4- 1. Future Trend Assumptions and Potential Implications

Change Element	Potential Impacts	Included in Analysis?	Reason
Land Use	Changes in volume of traffic, distribution of traffic, traffic schedule, impacts on intersections, type of vehicles. Can affect needed roadway capacity, bridges, interchanges, and demand for transit.	Yes	No land use alternatives were examined. Changes in land use and trip generation due to the pandemic will be assessed in future models.
Highway Network	Changes in facility use, distribution of traffic locally and regionally, changes in vehicular demand, change in function of road, change in truck routing.	Yes	
Automotive Technology	Changes in types of energy used, has some impacts on land use, potential impacts on trip length.	No	Model has some capabilities in estimating travel of autonomous vehicles, but vehicular behavior and daily usage patterns are not known. Impacts of electrification of the fleet is assessed in Chapter 5.

[1] 2012-2025-2040 Land Use Assumptions. DuPage County Division of Transportation. March 2018.

Change Element	Potential Impacts	Included in Analysis?	Reason
Connected Infrastructure	Possible efficiencies in traffic signal systems, vehicle travel, and delay avoidance. Information systems and advance warning capabilities allow drivers to change paths in the event of crash and rail crossing delays.	No	Model has limited capability of assessing effects of connected vehicles
Managed Lanes and Tolling	Changes to travel behavior and demand, time of day effects of variable pricing.	Partial	Model incorporates new capacity and access to these facilities, but is not able to accurately model time of day tolling strategies.
Parking Pricing	Changes may result in decrease in frequency of trips, or demand for transit or shared ride services.	No	Model has some capabilities to assess broad parking pricing strategies but was not enabled for the LRTP.
Transit Service	Changes in service strategy and routing may result in new automobile or alternative transport demand. Changes in Metra service schedules result in different demand hours.	Partial	Model includes demand for Metra park and ride services and only indirectly accounts for walk and bike trips.
Non-motorized Trips	Energy costs and continued displacement of workers to work from home arrangements may result in significant drops in auto trips. New mechanized micro-transit options may emerge in locations reducing the need for long distance auto trips.	No	Model is capable of estimating the effects of a wide scale pandemic and work from home effect through trip generation assumptions but this model does not.
Economic/ Social Equity	Rising costs of auto ownership, energy, and tolls will affect the way that lower income people travel and how frequently.	No	Regional transportation models are currently in development that examine how to serve lower income populations and what economic considerations should be given.

4.1.2 Land Use Assumptions

This section presents an overview of the land use projections used to identify future transportation needs within the county. The traffic model that has been developed utilizes DuPage County land use plus the land use in adjacent counties. Staff is responsible for performing regular inventories of land use and developing forecasts for future land use based on trends, zoning, environmental conditions, and transportation network access. Projections include development of vacant parcels as well as locations where there are opportunities for redevelopment. Development is assigned to parcels according to zoning and prevailing development density. In a small set of cases, development is assigned to parcels and zones in accordance with planned development as provided by municipal development departments.

These growth assumptions act as inputs in the travel demand model and trip generation rates are then assigned to each land use type. The trip generation rates used in DuPage County's model are based on a 2006 study conducted by the Chicago Metropolitan Agency for Planning (CMAP), the Illinois Department of Transportation (IDOT), the Northwestern Indiana Regional Planning Commission, and the Indiana Department of Transportation (InDOT). All growth assumptions presented in this section are compared to a base year of 2015; at the time model development began, 2015 had the best available travel speed and traffic count data.

Most of the assumptions developed by the department pre-date the pandemic. Existing office and retail development is clearly going to be affected by the pandemic; future development of these uses is likely to be volatile and dependent on absorption of vacant space. The pandemic effects other aspects of land development as well. With travel restrictions, hotels and entertainment venue development will be limited in the near term. School districts will need to evaluate plans for additional schools given risks to students and teachers. Industrial and warehousing use development, contrary to other development has increased in response to the explosive demand due to online shopping and next day delivery.

Residential Growth

Overall, the number of residential units in DuPage County is expected to grow by 5.7 percent between 2015 and 2040, an increase of more than 21,000 units (**Table 4- 2**). Residential growth in the surrounding areas is expected to be higher, at 6.5 percent, representing an increase of 75,000 units.[2] This surrounding area includes developments within a buffer area of approximately 5 miles around the DuPage County border.

Table 4- 2. DuPage and Buffer Area—Number of Residential Units by Forecast Year

Forecast Year	DuPage County	Surrounding Area
2015	374,279	1,148,154
2040	395,709	1,223,028
2015-2040	21,430	74,875
Absolute and Percentage Increase	5.7%	6.5%

Source: 2012-2025-2040 Land Use Assumptions. DuPage County Division of Transportation. March 2018.

Most of the residential growth in DuPage County is expected to be in multi-family dwelling units. Approximately 15,000 new multi-family units are expected to be added through 2040, accounting for 70 percent of new residential units. Of the remaining 6,000 projected units, 5,000 are expected to be single-family homes and the other 1,000 group dwelling units.

As shown in **Figure 4- 1**, the largest increases in residential units are expected to occur along major corridors. This is attributed to historic trends that show a tendency for multi-family type developments to locate along denser, busier corridors, such as the BNSF Metra line and I-88.

The southwest quadrant of the county is expected to get the largest increase in residential units with an additional 7,000 units, representing an increase of 9.3 percent. Many of these increases are concentrated along the I-88 corridor. The northeast quadrant is also expected to get an

[2] ibid.

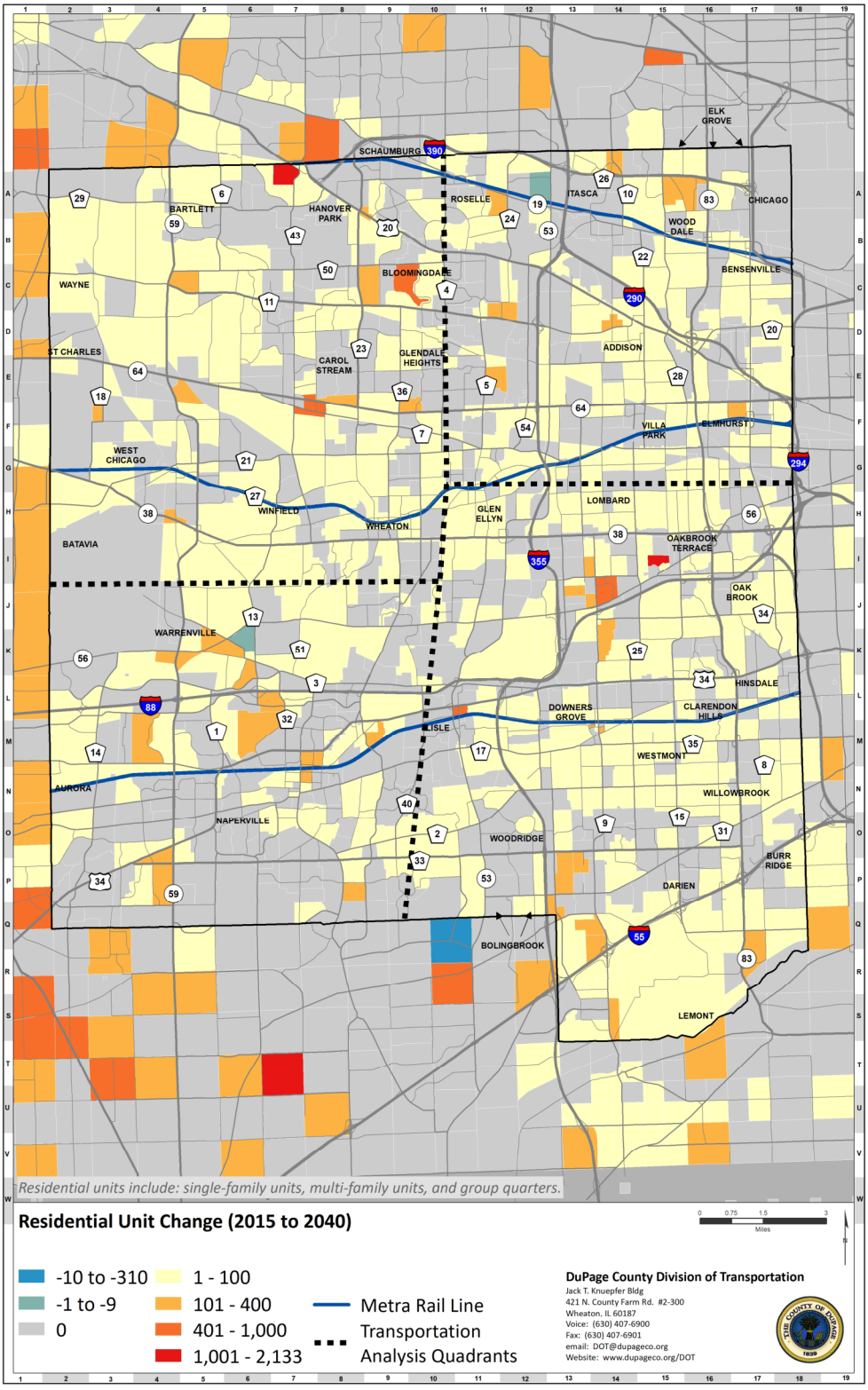

Figure 4- 1. Projected Growth in Residential Land Use, 2015-2040
Source: 2012-2025-2040 Land Use Assumptions. DuPage County Division of Transportation. March 2018.

additional 7,000 units, an increase of 4.9 percent. The largest expected increases in this quadrant are located along Lake Street and the new IL 390 Tollway. The southeast and northwest quadrants are expected to split the remaining growth, growing by 5.7 percent and 4.3 percent, respectively.

In the surrounding area, the most significant growth is expected to occur in Kane County to the west, Will County to the southwest, and the portion of Cook County just above the northwest corner of DuPage County. This is expected to drive an increase in trips in the western half of the county in 2040.

Non-Residential Growth

Non-residential land use categories within the travel demand model include retail, office, industrial, warehousing, public facilities, transportation, and utilities. Between 2015 and 2040, square footage within non-residential land uses is anticipated to increase by 10.2 percent in DuPage County and 12.9 percent in the surrounding area. The surrounding area includes developments within a buffer area of approximately 5 miles from the DuPage County border.

Table 4- 3. DuPage and Buffer Area—Non-Residential* Space by Forecast Year (in thousands of square feet)

Forecast Year	DuPage County	Surrounding Area
2015	400,725	479,508
2040	441,548	541,568
2015-2040	40,823	62,060
Absolute and Percentage Increase	10.2%	12.9%

* Retail, Office, Industrial, Warehouse, Schools, Transportation and utilities, and Municipal/public land use.
Source: 2012-2025-2040 Land Use Assumptions. DuPage County Division of Transportation. March 2018.

Non-residential land use assumptions are grouped into three categories:

- Commercial: Retail and office
- Industrial: Industry and warehousing
- Governmental: Public facilities, schools, and utilities

Commercial Land Uses

Total retail and office development is projected to grow by 19.7 million square feet through 2040, a 14.1 percent increase over 2015 levels. Most of this growth is expected to be concentrated in the western half of DuPage County, as this is where most of the large parcels of available land are located. This type of land use occurs in areas along major transportation corridors throughout the County. Downtowns along the Union Pacific – West and BNSF Metra lines are also expected to add significant square footage in towns such as Elmhurst, Wheaton, Glen Ellyn, Lisle, and Naperville.

Office development is expected to account for nearly two-thirds of commercial development through 2040. Office space is projected to increase by 12.3 million square feet, an increase of 17.1 percent over 2015 levels. Retail is expected to grow by over 7.4 million square feet, a 10.8 percent increase over 2015.

Industrial Land Uses

Total industrial development, including warehousing, is projected to grow by 17.3 million square feet through 2040, an 8.8 percent increase over 2015 levels. Most of this growth is expected to be concentrated along the IL-59 and CN Rail corridors at the western edge of DuPage. The northeast corner of the county is also expected to get significant industrial growth, with the increase concentrated around O'Hare Airport and the new IL 390 and I-490 Tollways. The I-55 corridor running through and along the southern edge of DuPage is also expected to get significant industrial growth. However, most of this growth is south of DuPage in Will County.

Institutional Land Uses

Institutional land use in DuPage County is projected to grow by 3.9 million square feet, or 6.1 percent between 2015 and 2040. This category includes governmental buildings, schools, transportation uses, and utilities. Most of the growth in this category is expected to be in the expansion of college facilities within the county.

4.2 Committed and Programmed Projects

The DuPage County travel demand model incorporates programmed and committed projects through 2040 based on plans from multiple local, regional, and statewide organizations. These are projects where the agency responsible has committed funding and is committed to building a project within five years. Including these projects in the evaluation of 2040 travel conditions helps to promote future investment decisions that do not overlap with or counteract improvements that are already expected to occur on the network. The projects included in the 2040 model network are presented in **Figure 4- 3** on the following page.

In addition, the county reviewed plans for other projects that are recommended but not yet fiscally constrained within an existing program. Coordination of priorities with other local agencies is an important part of the planning process. Thus, the County used this list of recommended projects as an initial draft list of future needs. As discussed in Chapter 6, this list is then expanded and evaluated based on the results of the modeling process.

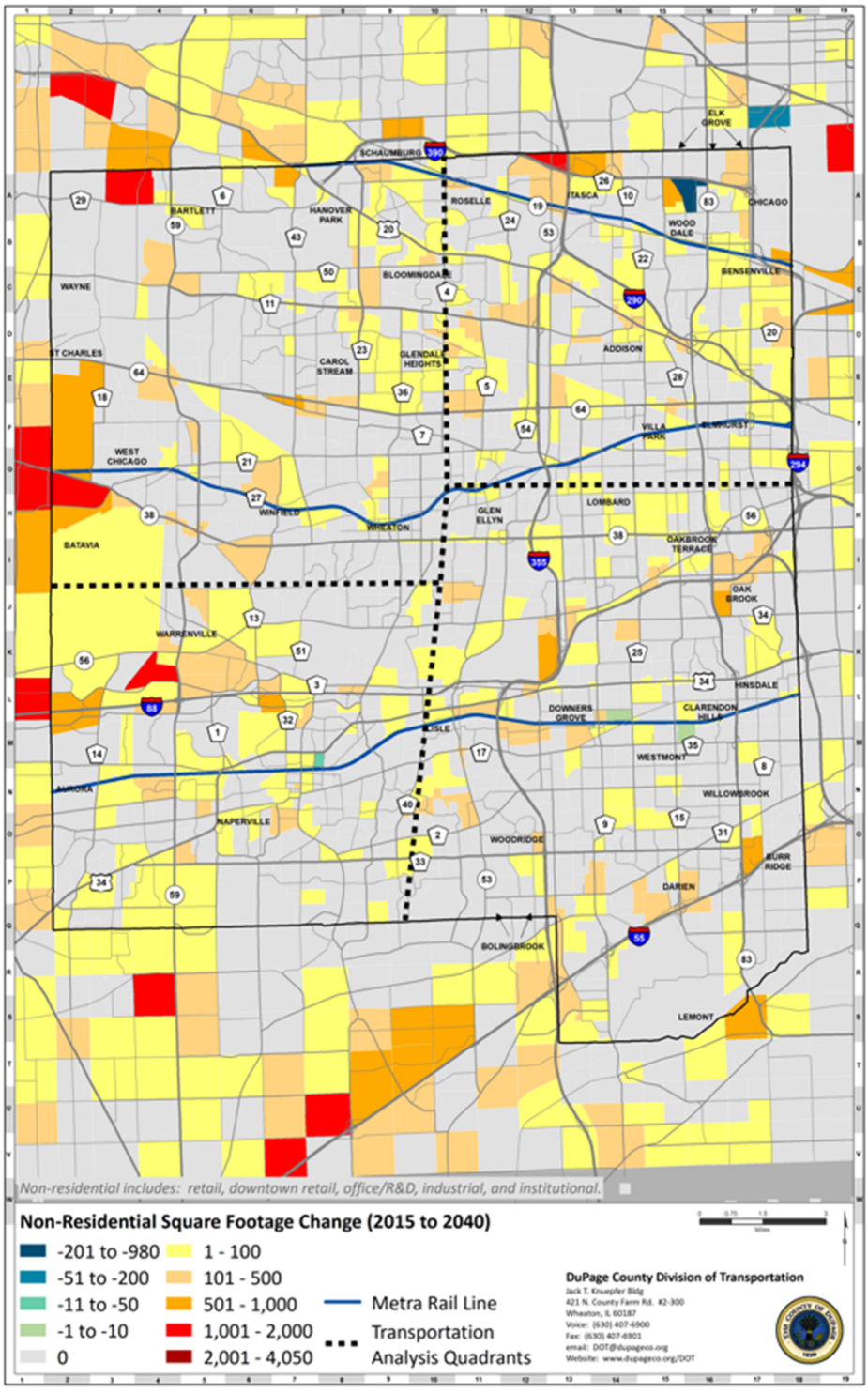

Figure 4- 2. Projected Growth in Non-Residential Uses, 2015-2040

Source: 2012-2025-2040 Land Use Assumptions. DuPage County Division of Transportation. March 2018.

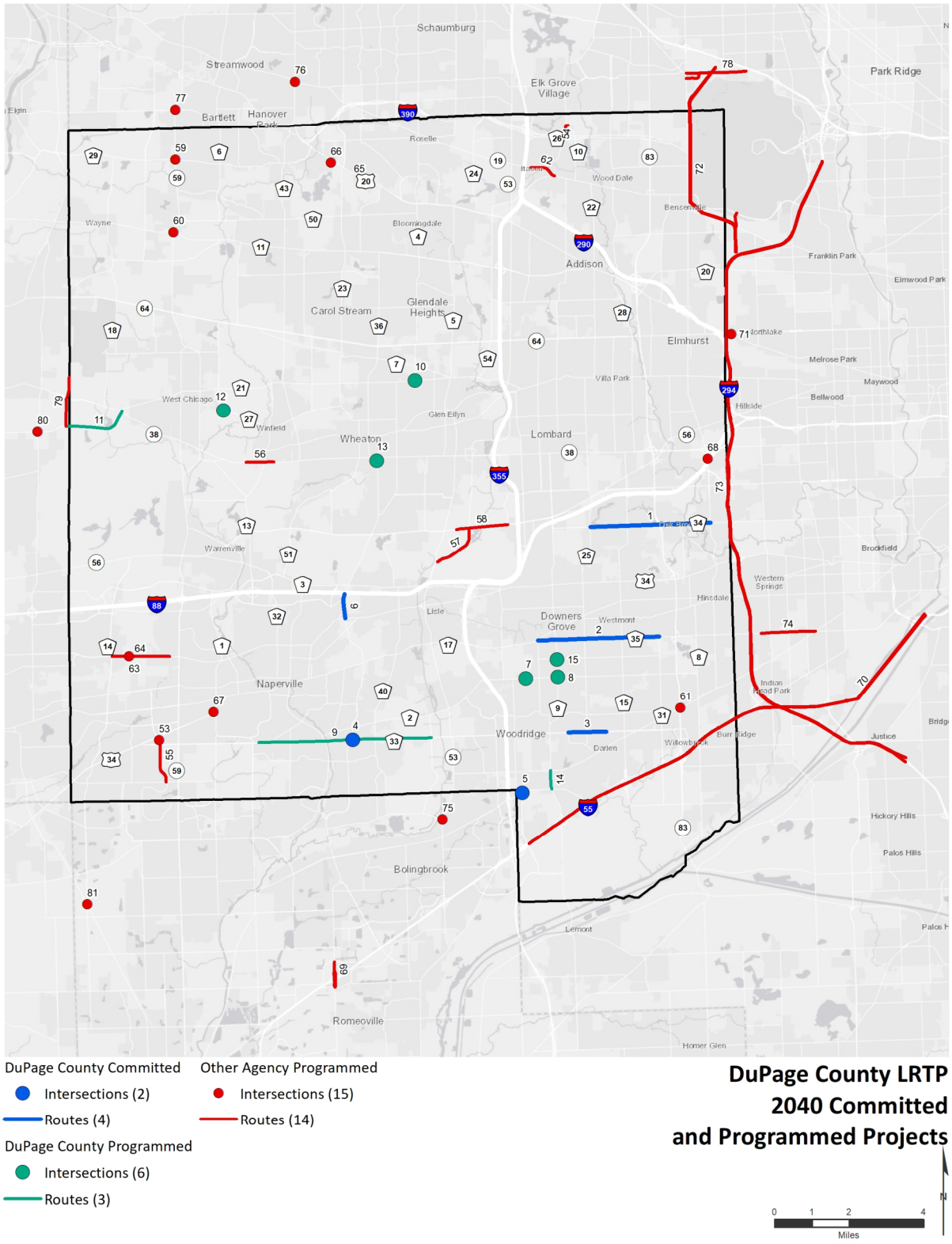

Figure 4- 3. DuPage County Committed and Programmed Projects Included in 2040 Model Scenario

Referenced plans include the DuPage County CRIP, CMAP Surface Transportation Program and Transportation Improvement Program, IDOT Statewide Transportation Improvement Program, and Tollway Capital Program. In addition, other local municipal plans identified through local, regional, and state organizations were referenced. The following bullets provide background information for each plan and/or program:

- **DuPage County CRIP:** Projects identified in the CRIP primarily focus on capacity improvements through improved intersections and roadway expansions. The CRIP does not include routine maintenance and resurfacing. Projects included in the CRIP are undertaken by DuPage County and local municipalities, as well as through partnerships with neighboring counties and IDOT.
- **CMAP Transportation Improvement Program (TIP)**: The CMAP TIP lists federally funded projects and other regional projects planned for the next five years for the Chicago region. Projects identified in this program help tie in regional goals to local implementation and include a diverse array of project types such as roadway maintenance, bridge rehab, bicycle and pedestrian improvements, and other types.
- **IDOT Statewide Transportation Improvement Program (STIP)**: A new STIP is developed every three years and includes projects related to highways, transit, and intercity rail. Only federal and state-funded highway and public transportation projects are included in this program.
- **Illinois Tollway Capital Program**: The Illinois Tollway Capital Program, known as Move Illinois, is a plan developed by the Illinois Tollway that identifies projects necessary to keep the Tollway system up to date into the future. While DuPage County is not directly involved in this program, projects are included in the modeling process to accurately reflect the transportation network.
- **Municipal Programs**: Municipalities within DuPage County have developed plans and programs that allow them to implement transportation improvements. Projects from these sources were also reviewed for potential inclusion in the travel demand model.

4.3 Expected 2040 Traffic Conditions

This section presents the anticipated 2040 traffic conditions in DuPage County based on the results of the travel demand model. Based on the inputs and assumptions discussed in previous sections, the model assigns future trips to the planned roadway network, providing an estimate of the number of vehicles that will travel on each part of the County's transportation system in 2040, both on a daily basis and during the peak travel time hour, between 5:00 and 6:00 p.m. While the model provides an effective way to identify needs in a quantifiable manner, as with any tool it has limitations and is thus, just one of the tools used to prioritize and select future capital improvements. A technical report detailing the modeling project is available on the DuDOT website.

One limitation of the model is its ability to assess demand for and the benefits of alternative modes of transportation. Thus, the potential need for additional transit, trails, bike routes, and other alternative transportation opportunities is discussed in the next section.

Safety is also a top priority in the identification and evaluation of the future transportation needs that cannot be represented in the model. As presented in Chapter 2, the County reviewed crash data to identify the areas with the highest crash rate and highest injury rates within DuPage County. Chapter 6 presents how projects that improve safety are identified and prioritized for capital investment.

Expected Traffic Growth by Analysis Quadrant

This section presents the expected growth in vehicle miles traveled and congestion between 2015 (the base simulation year) and 2040. Model-based estimates are presented for four analysis quadrants selected for this study, as presented in **Figure 4- 1** and **Figure 4- 2.** The section also presents estimates of the time traveled in congestion conditions, meaning below the posted speed limit, and a summary of expected lane-mile additions to the roadway (presented as percent change in roadway capacity).

Annual vehicle miles traveled (VMT) in DuPage County is expected to increase from an estimated 27 million miles travelled in 2015 to 30 million in 2040, an increase of 11 percent. The average distance travelled in and around DuPage County is expected to remain similar, with a slight estimated increase from 11 to 12 miles per trip. Typical trip time is expected to increase more significantly from an average of 18 minutes in 2015 to 26 minutes in 2040, an increase of 14.2 percent (**Figure 4- 4**).

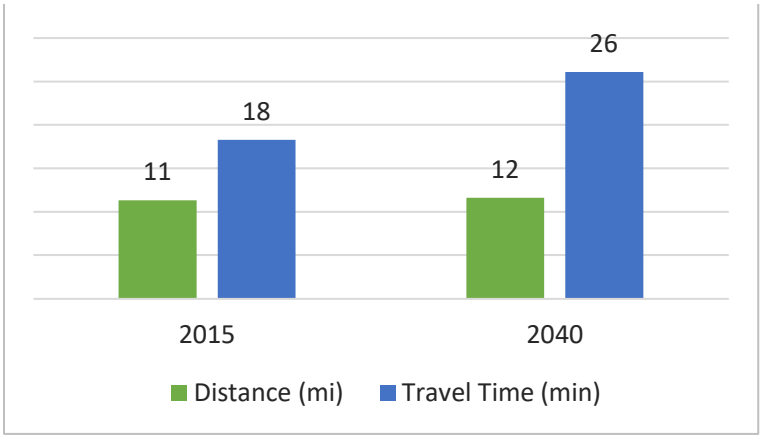

Figure 4- 4. Average Vehicle Trip Distance and Time, 2015 and 2040

Source: DuPage County Traffic Model developed for LRTP

The larger increase in travel time is due to an increase in congested conditions. Time spent traveling in congested conditions (below the posted speed limit) is expected to increase by one-third or 33.4 percent between 2015 and 2040.

As shown in **Table 4- 4** growth in VMT is expected to be similar in all four county sections, ranging from 9.7 percent in the northeast section to 13.1 percent in the southwest section. The slightly higher growth in the western portion of the county is driven by residential, commercial, and industrial developments expected to occur in this area and in the counties that border this half of the county.

Table 4- 4. Expected Change in Daily Traffic and Roadway Conditions in DuPage County By Analysis Quadrant between 2015 and 2040

Analysis Quadrant	Vehicle Miles Traveled	Roadway Capacity[1]	Vehicle Hours Traveled	Hours Traveled in Congested Conditions[2]
Northwest	12%	10%	11%	13%
Northeast	10%	4%	15%	38%
Southeast	11%	2%	17%	49%
Southwest	13%	3%	17%	57%
DuPage Total	**11%**	**5%**	**14%**	**33%**

[1]Expected increase in lane-miles due to roadway widening or expansion.

[2]Hours traveled at speeds below the posted speed limit.

Source: DuPage County Model developed for LRTP

Congestion is expected to increase most significantly in the south half of the county. This is due to a combination of higher growth in VMT and lower expected expansions in roadway capacity. The lowest increase in travel time and congestion occurs in the northwest quadrant where the expected addition of the IL 390 and I-490 Tollways is anticipated to add significant capacity to the network in this area, decreasing overall travel times. As shown in **Table 4-5** time spent in congested conditions during the peak PM hours is expected to remain flat in this quadrant.

Table 4- 5. Expected Change PM Peak Hour Traffic and Roadway Conditions in DuPage County By Analysis Quadrant between 2015 and 2040

Analysis Quadrant	Vehicle Miles Traveled	Roadway Capacity[1]	Vehicle Hours Traveled	Hours Traveled in Congested Conditions[2]
Northwest	10%	10%	5%	0%
Northeast	7%	4%	11%	23%
Southeast	9%	2%	17%	40%
Southwest	13%	3%	17%	46%
DuPage Total	**9%**	**5%**	**11%**	**21%**

[1]Expected increase in lane-miles due to roadway widening or expansion.

[2]Hours traveled at speeds below the posted speed limit.

Source: DuPage County Model developed for LRTP

Table 4-5 presents the expected change in traffic conditions during the PM peak hour, which represents the most congested hour of the day. Overall PM peak growth trends are similar to the daily growth trends, just a little lower. The lower growth trends in the peak period are likely due to lower available capacity in this period.

Figure 4-5 presents expected 2040 PM peak hour congestion by route. As noted with **Table 4-5**, most of the peak hour congested travel is expected

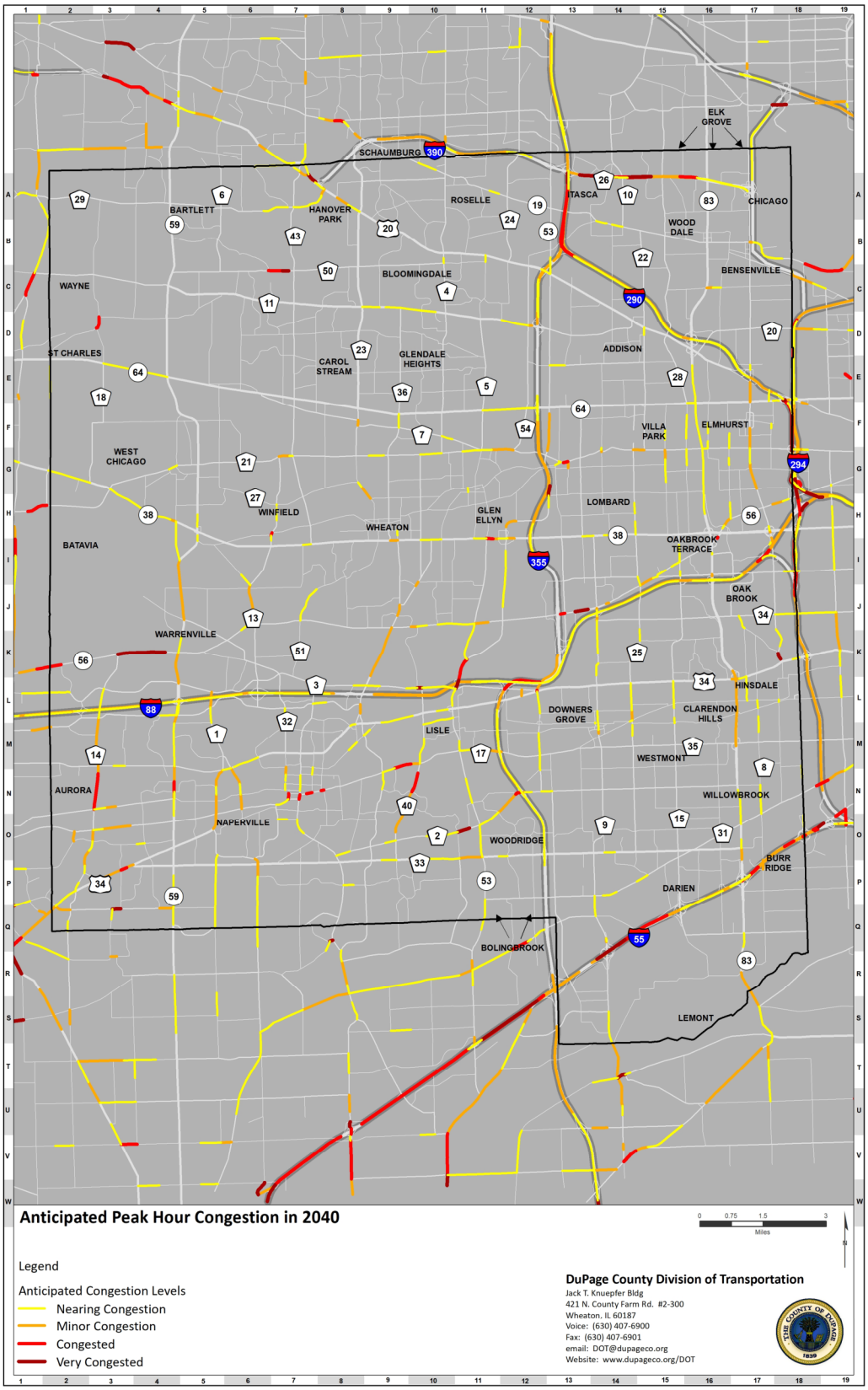

Figure 4- 5. 2040 PM Peak Hour Congestion by Route

to occur in the southern portion of DuPage County. This congestion is mostly expected to occur along corridors that already face congestion-related travel delays today and is largely focused along the I-88 corridor west of I-355.

In the southwest quadrant, congestion is expected along most of the north-south feeder routes to the Reagan Memorial Tollway (I-88), including IL 59, IL 53, Naperville Road, and Eola Road. Congestion is also expected on east-west routes, including IL 56 and Ogden Avenue (US 34) west of Naperville Road and 75th Street and Hobson Road east of Naperville Road.

East of I-355, in the southeast quadrant, congestion is expected to continue on IL 83, similar to existing conditions. This congestion is not expected to increase, despite increases in future traffic, due to increased north-south capacity on the parallel Tri-State Tollway. This Tollway system expansion is also expected to alleviate congestion in the northeast quadrant, with the widening of the central Tri-State Tollway as well as the completion of the new IL 390 and I-490 Tollway facilities.

Expected Traffic Growth by Roadway Jurisdiction

Table 4-6 and **Table 4-7** present the daily and PM peak period traffic growth by roadway jurisdiction. DuPage County-managed roadways are expected to see lower growth in VMT as compared to facilities managed by IDOT, the Tollway, and local municipalities. However, congestion is expected to grow by a proportion similar to that expected on IDOT and Tollway facilities. This is partially due to lower roadway expansion expected on DuDOT-managed facilities. Much of the anticipated expansion is expected to occur on IDOT and Tollway-managed interstates, including the addition of managed lanes on I-55, widening of the central Tri-State Tollway, and addition of the IL 390 and I-490 Tollways.

The highest growth in congestion is expected on locally managed roadways where the lowest volume of capacity increase is expected to occur. This emphasizes the importance of county support for local network improvements and coordination.

Table 4- 6. Expected Growth in Average Daily Traffic and Roadway Capacity by Jurisdiction in DuPage County between 2015 and 2040

Jurisdiction	Vehicle Miles Traveled	Roadway Capacity	Vehicle Hours Traveled	Hours Traveled in Congested Conditions
IDOT and Tollway	12%	10%	16%	32%
DuPage County	7%	2%	10%	33%
Local/Municipal	12%	2%	14%	53%
Total	**11%**	**5%**	**14%**	**33%**

Table 4- 7. Expected Growth in Average PM Peak Hour Traffic and Roadway Capacity by Jurisdiction in DuPage County between 2015 and 2040

Jurisdiction	Vehicle Miles Traveled	Roadway Capacity	Vehicle Hours Traveled	Hours Traveled in Congested Conditions
IDOT and Tollway	10%	10%	12%	17%
DuPage County	5%	2%	9%	24%
Local/Municipal	10%	2%	13%	42%
Total	**9%**	**5%**	**11%**	**21%**

Travel between DuPage and the Surrounding Counties

Figure 4-6 shows expected 2040 commuter patterns between DuPage County and adjacent counties. Note that these do not represent travel origins and destinations, but simply travel movements expected across county borders. For example, movements to Cook County may be trips headed to Lake County, Wisconsin, and/or Indiana, that are simply headed through Cook County.

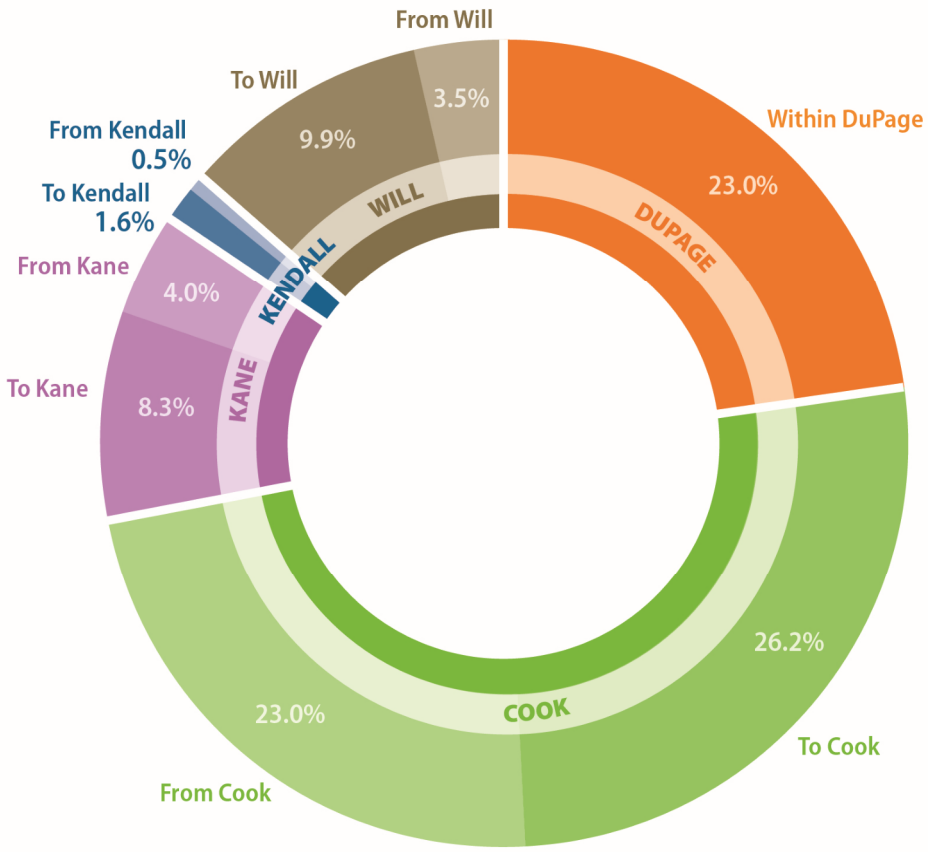

Figure 4- 6. 2040 PM Peak Hour Commute Patterns between DuPage County and Surrounding Counties*
*Presents work/home-based travel movements during the PM peak commute hour. Categories do not represent origin and destination of trips, merely the cross-county movements expected to occur at the DuPage County borders.

As shown, 23.0 percent of commuters are expected to live and work in DuPage County. This is consistent with existing conditions. In addition, the strong connection between DuPage and Cook County is expected to be maintained through 2040. In 2040, Cook County connections are expected to account for approximately 49.2 percent of total PM peak hour commute trips. This is up slightly from 47.2 percent in 2015.

Employment connections with Kane and Kendall Counties are also expected to grow through 2040. In 2040, trips between DuPage and Kane and Kendall are expected to account for 12.3 and 2.1 percent of total PM peak commute trips, respectively – up from 11.8 and 1.8 percent in 2015, respectively. As shown, most of these PM trips are expected to be trips from DuPage to Kane and Kendall, showing a strong connection between residential growth in Kane and Kendall and expected employment growth in DuPage.

4.4 Additional Needs

Current transportation and land use trends indicate a shift towards walkable communities with access to transit and consequently, transit-oriented development. As local municipalities within DuPage County, as well as on a regional level, continue to evolve and develop these concepts, transportation needs should consider and address solutions related to first- and last-mile connectivity and multi-modal transit options. Bridge improvements represent additional critical infrastructure projects that provide important safety and state of good repair considerations, the benefits of which might not be fully captured as part of the travel demand model.

In addition, the county's programs and policies can be designed to support and promote these alternative modes of transportation, which contribute to a more diverse and robust transportation network. This is discussed in further detail in Chapter 6.

Key Takeaways

As noted in the Introduction, this chapter provides an overview of how DuDOT identified the key corridors and connections that are most likely to be capacity-constrained on the DuPage network by 2040. A travel demand model was used to support the analysis process. The following bullets summarize the key inputs and findings from that process.

- Between 2015 (the base model year) and 2040, the number of residential units in DuPage County is expected to increase by 5.7 percent. Non-residential land uses are expected to increase by nearly twice as much, with an expected increase of 10.2 percent in square footage of these uses.
- Over the same period, vehicle miles traveled in DuPage County is expected to increase by 11.0 percent, while time spent driving is expected to increase by 14.2 percent.
- Future congestion growth is largely expected to be concentrated in the southern half of the County, especially the southwest areas. Thus, this area will require the most significant capacity investments.
- Roadways on the County Highway System account for only a portion of the anticipated future congestion. The largest increases in traffic congestion are expected on municipal streets. Thus, coordination with other agencies, especially municipalities, and integrating projects with other agencies will remain an important part of maintaining efficient travel conditions in DuPage County.