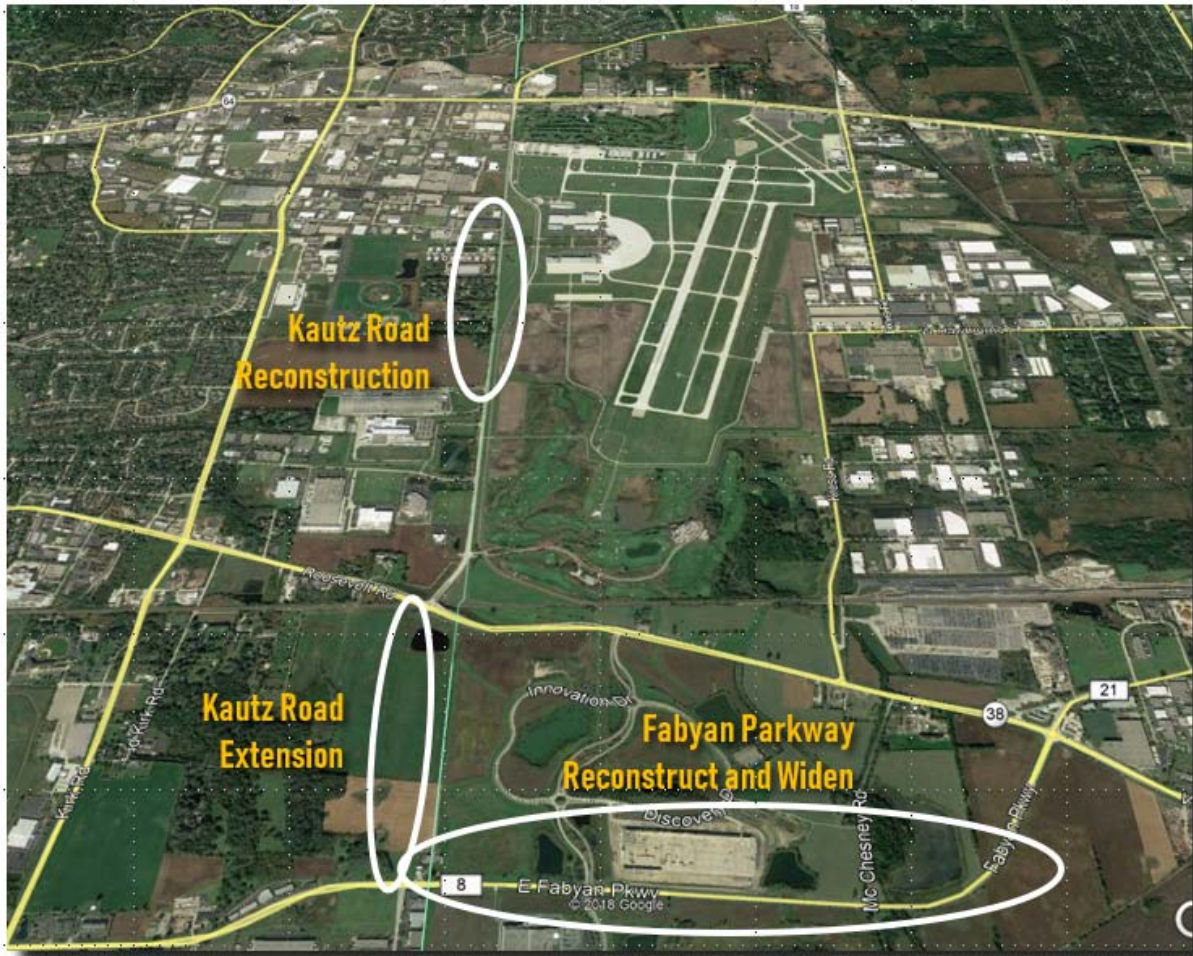


# DuPage County South DuPage Airport Corridor

*Supporting Development on the DuPage/Kane County Line*



CFDA: 20.933 – National Infrastructure Investments

DUNS: 1358360260000

[www.dupageco.org/BUILD2019](http://www.dupageco.org/BUILD2019)

July 2019

# BUILD Grant Application

*Better Utilizing Investments to Leverage Development Transportation Discretionary Grants Program*

<b>Project Name</b>	DuPage County South DuPage Airport Corridor
<b>Applicant</b>	DuPage County Division of Transportation
<b>Project Partners</b>	City of West Chicago City of Geneva City of St. Charles Choose DuPage Economic Development DuPage Airport Authority City of Geneva Economic Development
<b>Contact Information</b>	John Loper, Chief Transportation Planner DuPage County Division of Transportation 421 N County Farm Road, Wheaton, IL 60187-3992 630.407.6882, <a href="mailto:jloper@dupageco.org">jloper@dupageco.org</a>
<b>Project Type</b>	Urban
<b>Project Description</b>	DuPage County and its project partners submit this request for \$21.7 million in 2019 BUILD funding to support the DuPage County South DuPage Airport Corridor project. This project brings together three projects of independent utility to create a more complete, multi-modal friendly, transportation environment in a growing area. Positioned between Fermi National Laboratory and the DuPage Airport, this project will support the development of over 1100 acres of industrial property while ensuring that traffic flows efficiently and safely.
<b>Project Cost</b>	\$30.1 million
<b>BUILD Funds Requested</b>	\$21.7 million (72%)
<b>Local Match</b>	\$8.4 million, (28%)
<b>Project Benefits</b>	The project will accommodate a significant amount of new traffic while preserving performance in this key inter-county corridor. Improvements will result in a safer, more accessible, network for all travelers and will enhance the quality of life and local economics by providing better access to new jobs. Overall B/C is 2.2

# DuPage County South DuPage Airport Corridor Improvement Project

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1. Project Maps and Graphics
2. Letters of Support
3. Benefit-Cost Analysis
4. Federal Wage Rate Certification

**BUILD 2019 Project Website:** <https://www.dupageco.org/BUILD2019/>

## Executive Summary

DuPage County is the second largest county in Illinois, with a population of over 933,700. The county is home to many successful businesses and is a multimodal freight hub, with numerous rail corridors and interstate highways. The county sees high traffic volumes and congestion on area roadways, which have an adverse impact on economic growth, safety, and quality of life.

DuPage County, the City of West Chicago, and the Cities of Geneva and St. Charles in Kane County are collaborating to enhance a portion of highway network south of the DuPage Airport that is ill-suited for massive development and the coincident traffic growth. The project partners are seeking funding assistance for these improvements, consisting of three projects of independent utility – one on DuPage County highway 21, Fabyan Parkway, and two separate projects on Kautz Road.

DuPage County is proposing to reconstruct and widen Fabyan Parkway from a rural 2 lane cross-section to a four-lane urban section with multi-use path and modern drainage systems. This improvement is important because DuPage County and Illinois Department of Transportation (IDOT) have recently completed a significant capacity and safety improvement at IL 38/Roosevelt Road just east of the Fabyan project. Kane County has programmed an improvement at Fabyan Parkway and Kirk Road, about 1 mile east of the project, which will improve an intersection that performs poorly throughout much of the day. An estimated 10-15,000 new vehicles will be generated from the 640-acre DuPage Business Center immediately adjacent Fabyan Parkway, 10-15% of which will be trucks. Fabyan Parkway has been a high accident location and appears on the State's 5% crash location list. This improvement will reduce or eliminate the serious head on and sideswipe collisions in this section.

The City of Geneva is proposing to build the extension of Kautz Road from IL 38/Roosevelt Road to Fabyan Parkway. This project would complete a planned extension of an urban 2/3 lane section. In 2015, IDOT completed a grade separated intersection project with Kautz Road and the Union Pacific Railroad. At that time, IDOT stubbed the south leg in anticipation of the future project. This project will open the door to a 500-acre development site and will provide important relief for congested Kirk Road in Kane County.

The third project is on the front door of the DuPage Airport and is being cooperatively managed by City of St. Charles and City of Geneva. This project reconstructs and widens Kautz Road to three lanes. The project is significant in that it will allow the Kautz Road corridor to become a continuous operational truck route that can serve the airport and industrial developments along Kautz from north or south. This project will eliminate much out of direction travel for commercial vehicles.

Collectively, these projects cost over \$30 million to build. Total benefits amount to more than \$70 million with a benefit cost ratio of about 2.3. The projects together have a 30.1M budget, with a 21.7M federal request (72%). Local agencies will supply a match of 8.4M (28%). DuPage County will administer the grant for its partner agencies. and will be responsible for design engineering and obtaining necessary agreements and permits. The letting will be

conducted by the Illinois Department of Transportation and construction engineering will be completed according to state and federal requirements.

The project is estimated to take 48 months beginning with completion of environmental engineering in 2020, design engineering beginning in 3rd Quarter 2020, project letting in 3<sup>rd</sup> Quarter of 2021 and project completion in 2022 and 2023.

The three completed projects will significantly improve mobility and safety for users of the transportation network in the corridors south of the DuPage Airport and open new economic development opportunities for the partner communities.

## I. Project Description

Drivers in DuPage County, Illinois, face significant congestion and delays as they travel between their homes, businesses, shopping, and recreation centers. As the second largest county in the State of Illinois, and home to an increasingly diverse population of over 933,700 people DuPage County is a hub for economic activity and the associated traffic volumes. Although DuPage County comprises only 7.3 percent of Illinois' population, it accounted for 10.1 percent of all Illinois jobs in 2015. Over 90 percent of commuters drive to work with 82.3 percent driving alone, while another 8 percent carpool. More than 271,000 workers travel to DuPage County from other parts of the Chicago region, and over 180,200 commuters travel from DuPage to other locations for work. Annually, DuPage County experiences approximately 24 million vehicle miles traveled, with commercial vehicles comprising six percent of the traffic mix.

DuPage County experienced rapid growth from 1970 to 2000, when development boomed and the population and roadway assets more than doubled. Since 2000 the County has matured and much of the developable land in the County has been consumed. Today, only about 10 square miles out of the 336 square mile area (3%) remains as high-quality developable property. One – tenth of that high-quality acreage is situated south of the DuPage Airport and immediately north of Fermi National Laboratory in the DuPage Business Center. Real Estate indicators suggest that this 640-acre park will develop quickly with more than 5 million square feet of industrial and distribution facilities. In the City of Geneva (Kane County), immediately west of the DuPage Airport, the Southeast Subarea is poised for development. This 500-acre site is situated between Kirk Road (Kane County highway 77), Fabyan Parkway (Kane County highway 8) and State Route 38.

Both sites have suffered from a lack of development-appropriate access, access to employees, and efficient access to regional and national expressways. With these conditions in mind, this project sets out the following goals and objectives:

### **Goal A - Improve local arterial access to development sites**

Objective 1: Create context sensitive highway facilities to serve modern industrial needs and vehicles

Objective 2: Ensure arterial design accommodates future growth within sub-region

Objective 3: Provide adequate alternative routes for industrial and airport site access

Objective 4: Enhance non-motorized travel opportunities where possible within the study area

### **Goal B - Improve arterial network connectivity and efficiency for all users**

Objective 1: Ensure arterial design and intersection improvements provide better, more efficient, performance for commuters and freight movements within and through the study area

Objective 2: Enhance economic and employee accessibility to key opportunities adjacent to the study area

Objective 3: Develop communications and systems connectivity to enhance travel efficiency in the east-west corridors.

This application is a collaboration between five agencies, DuPage County Division of Transportation (DuDOT), City of West Chicago, City of Geneva, City of St. Charles and Kane County. DuPage County will be the project lead with support from the other four entities. The South DuPage Airport Corridor Improvement Project is a package of three (3) projects of independent utility with similar objectives that will be coordinated for implementation and will result in a safer, more efficient roadway network. These projects will improve access and from economic centers while accommodating future local and regional traffic growth.

The three projects that will be pursued under this grant are (Figure 1):

- A. Fabyan Parkway reconstruction and widening from Louis Bork Drive to south of IL 38/ Roosevelt Road (1.38 miles)
- B. Kautz Road Extension – construction of a new arterial between IL 38/ Roosevelt Road and Fabyan Parkway (0.81 miles)
- C. Kautz Road reconstruction and widening north of IL 38/Roosevelt Road from Commerce Drive to Geneva Drive (0.67 miles)

Traffic signal and system improvements will be implemented at key intersections of all three projects: IL 38/Roosevelt Road and Kautz Road, Fabyan Parkway and Technology Boulevard, Kautz Road at Fabyan Parkway and IL 38/ Roosevelt Road and Technology Boulevard.

Proposed improvements will be laid out in more detail in the project location and project elements section below.

## II. Project Location

The three projects are located on the border between DuPage County and Kane County within the Cities of West Chicago (DuPage), Geneva (Kane) and St. Charles (Kane). Figure 1 identifies the South DuPage Airport Corridor as a transitional zone with a mix of industrial, transportation and residential uses. The projects are located between the DuPage Airport on the north and Fermi National Laboratory on the south.

### *Fabyan Parkway Corridor*

Fabyan Parkway is under the jurisdiction of DuPage County east of the county line and is designated as County Highway 21. West of the County line, Kane County maintains Fabyan Parkway as County Highway 8 until its intersection with County Highway 10, 5 miles west of the Fox River. Fabyan Parkway is one of a very few unimpeded, higher speed, higher capacity, crossings of the Fox River in Kane County. In DuPage County, Fabyan Parkway is a two-lane arterial roadway that carries between 15 and 18,000 vehicles per day with commercial vehicles comprising 8-12% of all movements. DuDOT has designated this section a Class II Truck Route. The roadway cross section transitions to a 4/5 lane section at the Kane County line and carries that cross section across the Fox River for four miles until Randall Road, Kane County's principal north-south arterial. In the Kane County section, traffic volumes range from 25,000 to 35,000 daily vehicles. This roadway is a designated locally maintained truck route.



Figure 1: South DuPage Airport Corridor Improvement Area

### DuPage County South DuPage Airport Corridor Proposed Improvements



DuDOT and Illinois Department of Transportation completed improvements to Fabyan Parkway and IL 38/Roosevelt Road intersection in 2018. This partnership was formed to improve delay and safety in the corridor. The intersection was included in the Fabyan Parkway project Phase I study but was completed independently from the Fabyan widening project due to the State’s schedule and funding availability. This project widened the intersection and added free-flow right turn lanes from Fabyan to eastbound IL 38.

The Kane County DOT has also programmed an intersection improvement at Fabyan Parkway and Kirk Road (\$13.7M in 2019) that will significantly reduce congestion and emissions at the west end of the Fabyan corridor.

Fabyan Parkway transitions to Washington Street north of IL 38. Washington Street is the primary access road into downtown West Chicago but travel through West Chicago is impeded by two rail crossings with frequent delays.

## Kautz Road Corridor

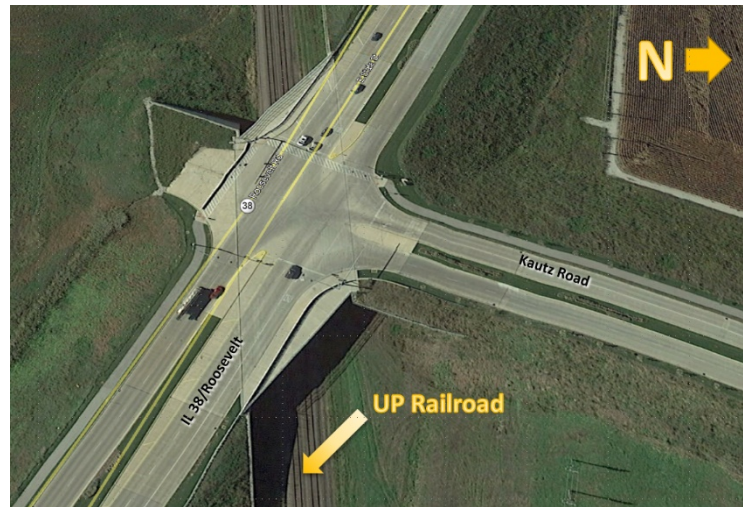
Kautz Road is currently a 2/3 lane major collector route carrying 9-10,000 vehicles per day<sup>1</sup>. Kautz Road functions as the primary access point to the DuPage Airport and to some significant industrial parks between IL 64/North Avenue, a six-lane strategic regional arterial, and IL 38/Roosevelt Road, a 4-lane strategic regional arterial. Kautz Road is also a bypass route for Kirk Road in Kane County where there are performance issues related to high traffic volumes, active railroad crossings and substandard intersection capacities.

Kautz Road is designated as a locally maintained class II truck route in sections along the 2.67-mile centerline from IL 64 to IL 38, except for the proposed improvement section which is signed with a 5-ton weight limit. The proposed improvement to Kautz Road would eliminate the gap in truck route classification and would allow trucks to traverse the entire corridor.

Kautz Road currently terminates at IL 38/Roosevelt Road. A new intersection was completed in 2016 which grade-separated the IL 38/Roosevelt Road and Kautz Road intersection from the Union Pacific Railroad. This project was significant in that it eliminated a vehicular and freight delay on IL 38 and Kautz due to the UP at grade crossing. The UP marshalling yard and Automotive Distribution Hub are less than 2 miles from this crossing and more than 120 freight and commuter movements cross IL 38 at this location.

The deck of the grade separated structure was prepared for the future continuation of Kautz Road to the south (see Figure 3). Signal equipment for northbound traffic will need to be installed to make the intersection whole.

**Figure 2 - Kautz Road at IL 38 Grade Separated Intersection**



**Figure 3 - Kautz at IL 38 Bridge Deck facing South**



<sup>1</sup> IDOT Traffic Count Database System. Counts based on most recent year available.

Roosevelt Road is a strategic regional arterial maintained by the State of Illinois. It originates in the City of Chicago and terminates in Dixon, Illinois. For most of the project area, IL 38 is 45/50 mph arterial facility with a great deal of industrial or commercial retail access. It is largely a 4/5 lane cross-section with a mix of urban and rural drainage. The highway is generally in poor to fair condition with rough pavement and poor rail crossings. It is largely unlit and accident frequency is high. The State maintains traffic signals all along this corridor and one system that includes the signals at Fabyan Parkway, Kress Road (DuPage County highway 18) and Kautz Road. The system is isolated and is not connected to any other systems in DuPage County or Kane County.

## Key Project Developments and Traffic Generators

It is the intent of this project to improve arterial access and design in the project corridor for existing and developing sites. There are many key employment and traffic generators adjacent to the corridor including:

- DuPage Airport (West Chicago)
- Union Pacific Automotive Distribution Hub (West Chicago)
- Fermi National Laboratory (Batavia)
- Charlestown Mall (St. Charles)
- Southeast Subarea (Geneva)
- DuPage Business Center (West Chicago)

Almost 34 Million square feet of commercial space (primarily industrial and warehousing) currently exist within a 3-mile radius of the center of the corridor and 2 million square feet are under construction as of July, 2019<sup>2</sup>. Future development will be focused on properties immediately adjacent to the corridor road projects.

### *DuPage Airport*

The DuPage Airport is a general aviation airport with more than 100,000 operations per year. The Airport supports onsite businesses, visitor services, aircraft services, hangering and a golf course. Approximately 1215 full or part time jobs are directly related to airport activities. The airport generates \$6 million in tax revenue for state and local taxing entities and approximately \$3 million in combined local property and sales taxes.

In addition to its aviation business, the DuPage Airport also holds all the land located in the DuPage Business Center. DuPage Airport has indicated that it intends to sell all the property associated with the Business Center.

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<sup>2</sup> CoStar Realty Information, Inc. analytics report for 2019.

### *Union Pacific Automotive Distribution Hub*

The Union Pacific Automotive Distribution Hub is one of the region's few such facilities. The hub functions as an offloading platform where double deck auto carriers collect new cars shipped to Chicago dealerships. Trucks pick up and depart the facility regularly with the primary access point being located on Kress Road immediately north of IL 38/Roosevelt Road. This location generates a significant amount of traffic that uses the road network in the project study area. It is estimated that more than 400 trucks access and egress the facility daily.

**Figure 4 - UP West Railroad Auto Distribution Hub**



### *Fermi National Laboratory*

Fermi National Laboratory is more than a research laboratory. It is also a vast recreational and tourist location with a 6800-acre natural area, complete with lacustrine systems, natural prairies and wildlife conservation areas. In addition to having more than 1800 employees, it hosts international scholars and researchers and affords the region many recreational opportunities through its biking and walking trails and its winter cross-country skiing venue.

The site is located immediately south of Fabyan Parkway and east of Kirk Road, straddling the DuPage/Kane County line. It is more than 10.5 square miles in area and forms a barrier to north-south and east-west travel between DuPage County and neighboring counties, making Fabyan Parkway an important component in inter-county travel.

### *Charlestowne Mall*

Charlestowne Mall is a 775,000 square foot regional shopping mall located at the north end of the Kautz Road corridor in St. Charles. The mall is largely vacant and due to retail hardship and online competition. The City of St. Charles is seeking to re-develop this large property with a new package of uses including medium density residential. The competitiveness of the development will largely depend on the success of the surrounding area and the availability of nearby jobs.

### Geneva Southeast Subarea

In Kane County, immediately adjacent to the DuPage County Airport and the DuPage Business Center, the City of Geneva has identified a largely undeveloped section of their community as the “Southeast Subarea.” This development area is roughly 500 acres in size and is the subject of a 2012 City of Geneva Southeast Subarea Plan<sup>3</sup>. This area will be a mix of residential, commercial retail and industrial development. The plan includes about 250 acres of industrial development. Access to Fabyan Parkway is limited due to existing shallow depth parcels currently fronting the road. Access to IL 38/Roosevelt Road is limited due to the Union Pacific Railroad traversing the property. The extension of Kautz Road affords access and greater development potential for these land-locked parcels.

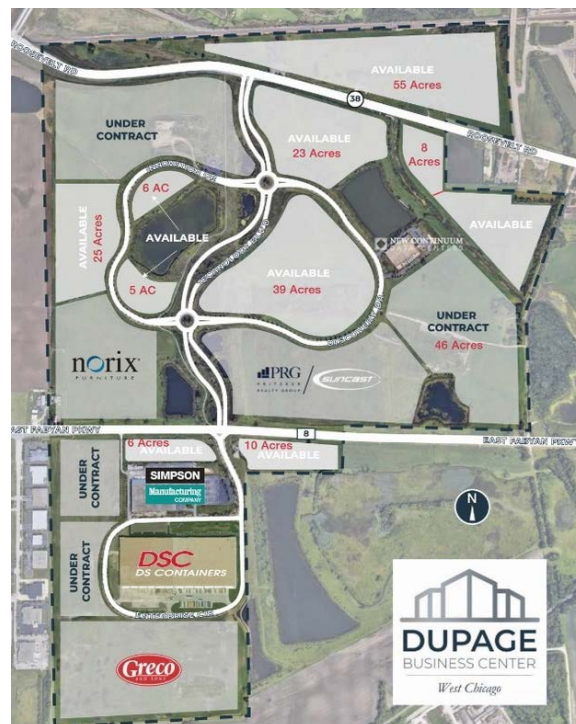
Figure 5 - Geneva Southeast Subarea Plan



### DuPage Business Center

The property on which the DuPage Business Center resides is owned by the DuPage Airport Authority (DAA). Since 2005, the DAA has sought to market this property solely for economic activity. As commercial retail and office market demand languished during the recession, the objectives of the DAA evolved and the DAA and the City of West Chicago allowed the property to be re-zoned for manufacturing, distribution, light industrial, research and development and data centers. The Federal Aviation Administration (FAA) has also issued a Waiver of Aeronautical Land-use Assurance for the sale of the property<sup>4</sup>.

Figure 6 - DuPage Business Center Plan



The Business Center is a 640-acre development bounded on the north by IL 38/Roosevelt Road and the Union Pacific Railroad, on the west by the DuPage County line (Kautz Road extended), on the south by Fabyan Parkway and on the east by McChesney Road.

<sup>3</sup> City of Geneva Southeast Subarea Plan. November 19, 2012.

<sup>4</sup> FAA

As of the date of this application, over 780,000 square feet of industrial and flex (data center) uses have been built and are operational. Over 1.7 Million square feet of industrial and distribution uses are under construction and 1.3 Million square feet of industrial development is proposed for 2019 and 2020 construction. An additional 175 acres are available for development before the business center is complete<sup>5</sup>. Immediately east of the Business Center is another series of vacant or agricultural parcels totaling 150 acres that are currently zoned commercial or industrial. Between 2020 and 2030, the Fabyan Parkway corridor should have nearly 6 Million square feet of industrial and distribution-oriented land uses active (Table 1).

**Table 1 – Projected Build out Impact of DuPage Business Center and Environs**

<b>Development</b>	<b>Status</b>	<b>Building Area (sf)</b>
DuPage Business Center	Existing (Active)	780,000
DuPage Business Center	Under Construction	1,700,000
DuPage Business Center	Proposed	1,300,000
DuPage Business Center	Land	1,100,000 (estimated)
Geneva Southeast Subarea	Land	1,600,000 (estimated)
Adjacent Vacant Properties	Land	1,000,000 (estimated)
<b>TOTAL</b>		<b>7,480,000 sf</b>

All told, it is expected that between 10 and 20,000 new daily trips, and from 1,000 to 2,000 new peak hour trips, will be generated in the immediate vicinity of Fabyan Parkway and Kautz Road<sup>6</sup>.

<sup>5</sup> CoStar Realty Information, Inc. database.

<sup>6</sup> Based on ITE Trip Generation Manual, 10<sup>th</sup> Edition, ITE codes 150 and 152.

### III. Grant Funds, Sources and Uses of Project Funds

DuPage County is requesting **\$21,703,880** under the FY 2019 BUILD Program to support the construction costs for the South DuPage Airport Corridor project. The estimated total project costs are **\$30,089,470**, and a BUILD grant would support 72 percent of the total project costs. The County and its project partners will fully fund Phase II design engineering and 20 percent of the project costs for construction and construction engineering. The project team’s total contribution will be 28% or **\$8,385,590** of the total project costs. Table 2 below outlines the key project components and the requested funding amounts under the BUILD program.

#### *Sources of Non-Federal Funds*

The non-federal funds are planned to be provided by DuDOT, City of Geneva and the City of St. Charles. DuPage County has several revenue streams available to pay for the local share of the project: impact fee funds, local gas tax and state motor fuel tax revenue. DuPage County is one of only two counties in Illinois that assess an impact fee on developers to support infrastructure improvements related to new or re-developments within the county. The impact fee funds will be a funding source for the local share of \$8,385,590. DuPage County is one of three counties in Illinois that collect a local gas tax, which is intended to be the secondary source of funding for the local share, to pay any costs that are not impact fee eligible.

**Table 2: DuPage County South DuPage Airport Corridor – Sources and Use of Funds**

Project Components	Estimated Cost	BUILD Funds	Non-Federal Funds
<b>Construction</b>			
<i>Fabyan Parkway</i>	\$ 16,925,200	13,540,160	\$3,385,040
<i>Kautz Road Extension</i>	\$3,197,050	\$2,557,640	\$639,410
<i>Kautz Road North Reconstruction</i>	\$ 4,541,250	\$3,633,000	\$908,250
<b>Construction Sub-Total</b>	<b>\$24,663,500</b>	<b>\$19,730,800</b> (80%)	<b>\$4,932,700</b> (20%)
<b>Phase II Engineering</b>	\$2,959,620	\$0	\$2,959,620
<b>Phase III Engineering</b>	\$2,466,350	\$1,973,080 (80%)	\$493,270 (20%)
<b>Total Costs</b>	<b>\$30,089,470</b>	<b>\$21,703,880</b>	<b>\$8,385,590</b>
<b>Total Cost Share</b>	<b>100%</b>	<b>72%</b>	<b>28%</b>

#### *Fund Availability for Upfront Payment of Federal BUILD Reimbursement Dollars*

The payment of upfront funds for the federal portion of the project will be committed by DuPage County and its project partners for engineering and by IDOT for construction. DuDOT has confirmed that the construction phase of the BUILD project, like most local agency federal projects, will be processed by IDOT: the state will appropriate and fund the construction phase and seek federal reimbursement of the BUILD Program funds in accordance with already established procedures.

## IV. Project Merit Criteria

### A. Safety

The DuPage County South DuPage Airport Corridor project will significantly improve safety along the project corridors and intersections. The Benefit-Cost Analysis shows that the improvements will result in cumulative savings of almost \$64 million in the costs associated with health-related, property, and infrastructure damages due to crashes.

Fabyan Parkway is a higher speed urban 2 lane highway. It is presently signed for 45/50 mph throughout the corridor. There is no lighting present along the roadway and shoulders are unfinished gravel shoulders in poor condition. Fabyan has a history of crashes and in the last three years (see Table 3 below), there have been 17 crashes in the project section. Two of the crashes have been sideswipe crashes that have resulted in injury. Two others have been head on crashes that resulted in Injury A and a fatality. Two other crashes have involved vehicles departing the roadway and crashing into fixed objects. Illinois Department of Transportation (IDOT) includes the entire Fabyan Parkway section of this project in its critical 5% location list. Locations along state highways that are identified as 5% locations are within the top 5% of locations statewide with the greatest potential for safety improvement, based on crash severity and frequency. Most of the critical crashes on Fabyan Parkway have involved reckless driving, speeding and loss of control on curve sections.

DuPage County proposes to widen Fabyan and to introduce crash mitigation strategies that have proven effective on other highways under County jurisdiction. These strategies include introducing medians – raised and striped, rumble strips in the medians and on pavement edge, and high reflectivity chevron signage. Another benefit of the project will be to separate bicycle and pedestrian traffic from the roadway by incorporating a separated, paved, multi-use path.

It is likely that the improvement of Fabyan Parkway will induce additional trips, diverting some of the existing traffic from IL 38/Roosevelt Road, creating safer conditions for this roadway. IL 38 has also had a significant number (49) of crashes, including 20 injury crashes and 4 truck/tractor crashes. About 33 percent of the crashes on IL 38 occur from 12a to 6a overnight and about 50 percent of these accidents are the result of speeding.

Kautz Road is also classified by IDOT as an urban two-lane corridor. The northern end of the project section is included in the IDOT 5% location list. The roadway transitions from a 3-lane section with center turn lane for better performance and separation of turning vehicles to a two-lane section in far more serious condition (see State of Good Repair, Section 4b).

While Kautz Road crashes have been less severe than Fabyan Parkway crashes there have been three injuries, one of which involved a bicyclist in the two-lane section of the project. Three of the crashes have been run off the road, seven have involved turning movements and tractor/semi accidents have also occurred in the area.



**Table 3 - DuPage County South DuPage Airport Corridor – Crash Data**

	Three Year Crash Data*							
Corridor	Fatal	Injury A	Injury B	Injury C	PDO	Ped/Bike	TOTAL	5% Location**
Fabyan Parkway	1	3	1	4	8	0	17	YES (complete)
Kautz Road	0	0	3	0	7	1	10	YES (partial)
Project Total	1	3	4	4	15	1	27	
Sources:								
* DuPage County DOT MS2 Traffic Crash Location System. Based on IDOT Traffic Safety Division crash data (2015-17, three-year totals)								
** Illinois Department of Transportation, IDOT 2017 Crash Analysis for Local Roads Five Percent Report								

An explanation of the safety characteristics associated with the project and the underlying assumptions is provided in the Benefit Cost Analysis Section beginning on page 28 below and in the Appendix.

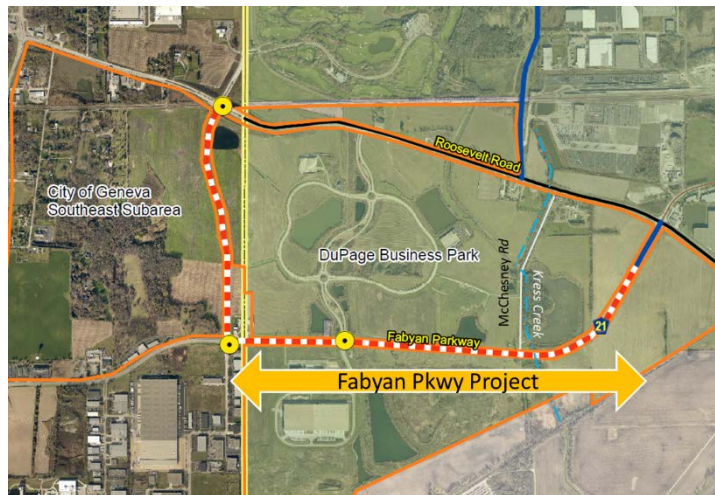
**B. State of Good Repair**

The DuPage County South DuPage Airport Corridor project supports state of good repair goals as it will enable the County and its partners to upgrade, modernize and optimize the roadway network to better accommodate projected traffic and create a safer corridor for all users.

*Fabyan Parkway*

Fabyan Parkway (County Highway 21) was first designed and built in 1970. Based on a service life of about 50 years, it is scheduled for reconstruction in 2020. Its typical section includes a 1.5” bituminous concrete surface course, a 2.5” binder course and a 10” bituminous asphalt mix base course. The highway is a rural design with two, unseparated, thirteen (13) foot lanes with unpaved gravel shoulders and open drainage (ditches). The posted and design speed is 45 mph throughout the corridor. It is frequently resurfaced due to the existing vehicle mix and was last resurfaced in 2008.

**Figure 7: Fabyan Parkway Project Location**



Its present overall condition (CRS) rating is between 5.5 and 6 out of 9. Fabyan Parkway right of way varies within the project limits from 100 feet to 148 feet.

Kress Creek is located approximately 200 feet east of McChesney Road. It is conveyed under Fabyan Parkway via a twenty-six-foot-wide box culvert. The culvert and drivers are protected by almost 500 feet of guardrail. There are five small crossroad culverts along Fabyan Parkway.

The proposed work the Fabyan Road project consists of reconstruction Fabyan Parkway for the addition of one through lane in each direction and auxiliary turn lanes at the intersections of Technology Boulevard. All turning movements were designed to accommodate a WB-65 design vehicle. Fabyan Parkway will consist of two 12' wide through lanes in each direction and an 18-foot barrier median of type B-9.12 curb and gutter. Type B6.18 curb and gutter will line the edges of pavement. Fabyan Parkway will have a closed drainage system along with shallow ditches or swales behind the curb where necessary. At the Technology Boulevard intersection, the median will widen to 30' and include both eastbound and westbound 12' dual left turn lanes and a 6' barrier median.

A ten-foot multi-use path will be provided along the south side of Fabyan Parkway between Technology Boulevard and McChesney Road. The path will link the existing 10' multi-use path along Technology Boulevard with development along McChesney Road. The path will be located 5 feet behind the proposed back of curb. In locations where path will not be constructed, in accordance with the County's Healthy Roads Initiative, a 10' wide shelf will be provided behind the back of curb for future sidewalk or paved side path. Due to the widening and the included shelf, culverts will need to be extended.

The existing traffic signals at the Fabyan Parkway intersection with Technology Boulevard will be removed and replaced as part of the improvement. New signal apparatus (e.g., signal heads, pedestrian signals, etc.) will be included in the installation. Combination lighting will also be installed at the intersection.

BUILD funds will allow DuPage County to replace aging and insufficient pavement and provide a solution to separating eastbound and westbound lanes of traffic for increased safety. In addition to these improvements, DuPage County proposes to install fiber-optic connections between the signal at Fabyan Parkway and Technology Boulevard and the proposed signal at Kautz Road/Louis Bork Drive and Fabyan Parkway. This fiber cable will link to fiber that will be installed with the Kautz Road extension, creating a link with the State's signal system at IL 38/Roosevelt Road and Kautz Road.

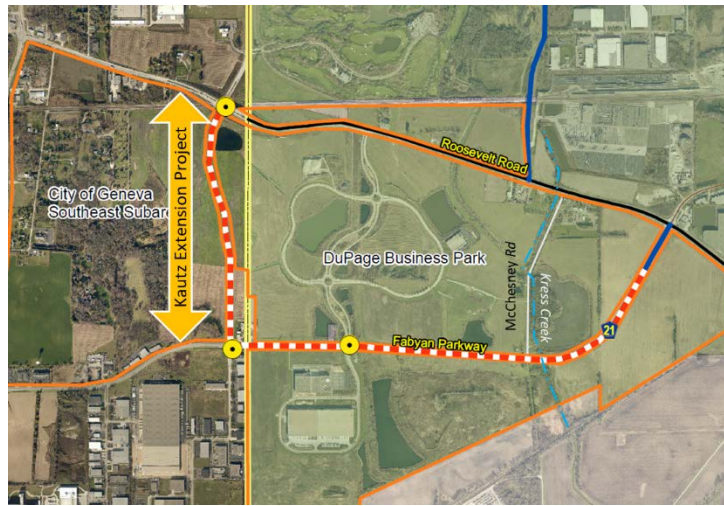
#### *Kautz Road Extension*

Kautz Road extension is a new facility. This roadway is part of a new annexation agreement and Planned Unit Development (PUD) currently being negotiated between the City of Geneva and property holder/developer. The Kautz Road right of way will be dedicated with the Plat of Annexation.

The property is currently vacant between IL 38/Roosevelt Road and Fabyan Parkway. The City is pursuing Phase I and Phase II engineering as part of the subdivision review process.

The improvement is approximately 4250 feet (0.8 miles) in length and will consist of two twelve foot through lanes widening to 3 twelve-foot lanes at planned subdivision streets. The roadway will be a flexible pavement with enclosed drainage. New drainage structures, lighting and a 10' asphalt mixed-use path will be installed along the new roadway. The improvement includes widening the intersection at Fabyan Parkway/Louis Bork Drive and the installation of new signals. As identified in the previous section, the new signal will be coordinated with the signal at Technology Boulevard. Maintenance will be managed by the City of Geneva.

**Figure 8: Kautz Road Extension Project**



#### *Kautz Road Reconstruction*

Approximately 1 mile north of the Kautz Road extension, reconstruction will take place on a segment of Kautz immediately adjacent to DuPage Airport. This project is being undertaken cooperatively by City of St. Charles, City of Geneva and City of West Chicago.

This 3500-foot (0.66 mile) section of pavement is in poor condition. It is a narrow two-lane roadway with frequent sections of crumbling pavement and potholes (see Figure 10 below). This section has narrow or no shoulders for bicyclists and no sidewalk or path. This section is limited to loads of 5 tons or under making out of direction travel or travel on Kirk Road to the west a necessity.

The proposed improvement includes reconstructing and widening 3500 feet of deteriorating pavement between Commerce Drive on the north and Geneva Drive on the south. The pavement will be widened from 2 to 3 lanes to include a median turn lane for future development efforts on the west side of Kautz Road in Kane County. The project partners will also add a ten-foot multi-use path on the west side of the road to complete a local bike path that connects to the Illinois Prairie Path – Geneva Spur regional trail. The inclusion of the bike path will effectively separate pedestrians from the road and will eliminate future bike-car conflicts in this section.

**Figure 9: Kautz Road Reconstruction**



While this improvement is not a major capacity improvement, it addresses access and safety issues that are pervasive throughout this part of western DuPage and eastern Kane County. Projections indicate that by 2040, this section of road will carry as many as 18,000 vehicles per day. With its development as an employment corridor and the continued evolution of the DuPage Airport, the potential redevelopment of the regional commercial site at Charlestown Mall less than a mile away, and regional recreational opportunities nearby, it is important that roads such as this be improved to current urban design standards.

This project will allow this piece of the Kautz corridor to be reclassified as a truck route, creating a continuous truck route between two State designated truck routes and County Class II designated routes. This re-designation encourages more efficient commercial vehicle flow and access.

*Figure 10: Kautz Road condition*



### **C. Economic Competitiveness**

The DuPage County South DuPage Airport Corridor project improvements will foster significant local and regional economic benefits. Located at the junctures of two counties and four municipalities, this project will expand and enhance roadway connections for all users, help attract new commercial and industrial development, generate accessible employment opportunities for a rapidly growing and diverse region and support freight movement within and through the area. Local and regional governments have been working in partnership to address economic development and transportation issues in this portion of DuPage and Kane Counties, initiating several infrastructure improvements over the past ten years.

Key features of the DuPage County South DuPage Airport Corridor project related to increased economic competitiveness are:

1. The Kautz Road extension will provide new access and a direct connection from Roosevelt Road to Fabyan Parkway along a planned 500+ acre mixed use and industrial park located in the City of Geneva's Southeast Subarea.
2. The Kautz Road extension will also provide new access from the south to the DuPage Airport immediately north of the project area, a major economic engine for DuPage and Kane Counties and the third busiest airport in Illinois. It would directly connect the Southeast Subarea with the airport and provide a more direct connection to vehicles traveling on Fabyan Parkway.

3. The DuPage Business Center, a 640-acre mixed use industrial/commercial park with available space will directly benefit from Fabyan Parkway roadway improvements which will improve traffic flow patterns along this strategic regional arterial and enhance access to the park. The DuPage Business Center located in the City of West Chicago is operated by the DuPage Airport Authority.
4. Fabyan Parkway roadway improvements will also enhance access to an existing industrial park in the City of Batavia located immediately south of the project area.

In summary, the DuPage County South DuPage Airport Corridor project, will enhance access to, from and through approximately 1,500 acres of developed and developable land and improve traffic flow for people and goods along the three surrounding principal arterial corridors of Roosevelt Road, Fabyan Parkway and Kirk Road as well as the DuPage Airport.

### **Commercial/Industrial Development and Long-term Job Creation**

The DuPage County South DuPage Airport Corridor project will significantly enhance development opportunities for the surrounding communities and help generate new jobs. There is high demand for the types of facilities offered by the 640-acre DuPage Business Center and the 500-acre Geneva Southeast Subarea. The Chicago-area industrial vacancy rate is currently at its lowest level in 18 years (6.3 percent).<sup>7</sup> Growth has been particularly strong in DuPage County, which has the lowest industrial vacancy rate in the region (4.4 percent as of February 2019).<sup>8</sup> Providing modernized access is crucial to nurturing continued growth at these locations and ensuring the viability and sustainability of the proposed developments there to ensure employment growth.

As an example, a 2018 analysis of the economic impact of the DuPage Airport Authority (DAA), which also oversees the DuPage Business Center, found that the total direct and indirect employment impact of the Airport and its activities alone was estimated to be 1,215 jobs.<sup>9</sup> The study determined that the employment multiplier was 2.21, meaning that for every 10 direct jobs, an additional 12 jobs are supported indirectly within DuPage and Kane counties.<sup>10</sup> The analysis

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<sup>7</sup> <https://www.chicagobusiness.com/commercial-real-estate/industrial-vacancy-falls-lowest-18-years>

<sup>8</sup> <https://www.chicagotribune.com/suburbs/aurora-beacon-news/chi-ugc-article-annual-economic-indicators-report-shows-stron-2019-02-12-story.html>

<sup>9</sup> The Economic and Fiscal impact of the DuPage Airport Authority and Associated Activities on the DuPage and Kane Counties Economy, page 3.

<sup>10</sup> The Economic and Fiscal impact of the DuPage Airport Authority and Associated Activities on the DuPage and Kane Counties Economy, page 3.

showed that airport activities support an estimated \$279 million annually within DuPage and Kane Counties, including \$169 million in direct output.<sup>11</sup>

The DuPage Business Center (DBC), located directly south of the airport is zoned for: Manufacturing, Distribution, Light Industrial, Office, R&D, Data Centers, Medical Facilities, Retail & Commercial.<sup>12</sup> Developing the center is one of the key priorities of Choose DuPage, DuPage County's economic development alliance. Development at the center has increased in the past two years. About 100 acres was sold in 2018 with two additional sites under contract in early 2019. An estimated 150 acres remains for sale or build to suit up to 50 acres contiguous.

The DBC has facilitated the expansion of local companies, providing the space and infrastructure necessary for the construction of new, state-of-the-art facilities. Some of the projects announced from local firms include a 782,000 square foot facility owned by neighboring Batavia-based Suncast Corporation., a manufacturer of custom wood and resin products, a 200,000 square foot global headquarters owned by commercial furniture-maker Norix Group (based in West Chicago) and a food processing and warehouse center owned by Greco and Sons, Inc., a nearby Bartlett-based foods distributor.<sup>13</sup>

The DAA economic impact study found that the employment impact of the Suncast and Norix facilities alone is estimated at 652 permanent jobs generated, equating to a total labor income of \$37.7 million (\$58,000 per job) and a total economic output impact of \$94 million.<sup>14</sup> One-time temporary impacts include an additional 483 construction jobs. With the full development and occupation of the DuPage Business Center and Southeast Subarea, the employment and economic output impacts will be significant.

In addition to long-term job creation, these developments will help diversify the tax base for the City of Geneva and City of West Chicago and generate revenues for local taxing districts. As an example, according to the DAA economic impact study, the DuPage Business Center was estimated to generate \$1.3 million in property taxes in 2018 based on assessed value. The total activity associated with the DuPage Airport Authority was estimated to generate about \$3.3

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<sup>11</sup> The Economic and Fiscal impact of the DuPage Airport Authority and Associated Activities on the DuPage and Kane Counties Economy, page 13.

<sup>12</sup> <https://www.dupagebusinesscenter.com/>

<sup>13</sup> "More Tenants Coming to DuPage Business Center in West Chicago."

<https://www.dailyherald.com/business/20190624/more-tenants-coming-to-dupage-business-center-in-west-chicago>

<sup>14</sup> The Economic and Fiscal impact of the DuPage Airport Authority and Associated Activities on the DuPage and Kane Counties Economy, page 4.

million in revenues for local taxing entities and \$2.7 million for the State of Illinois.<sup>15</sup> Expansion and development of both sites will lead to increased revenues and a stronger local tax base to reinvest into communities.

### **Access to Employment Centers and Job Opportunities**

With a population of over 930,000, DuPage County, the second largest county in Illinois has experienced changing demographics over the last 20 years and expected to reach 1.1 million people by 2050. Kane County is the fifth largest county in the state with a population of over 525,000 and is also one of the fastest growing Illinois counties with a forecast of almost 800,000 residents by 2050. Both counties have experienced significant population shifts by demographics and income with a growing proportion of Hispanic/Latino residents and to a lesser extent, Asian residents. Both, DuPage and Kane County, are also experiencing the suburbanization of poverty along with other suburban communities in the Chicago Metropolitan region. Poverty rates have increased and there is a growing number of lower-income residents and a skills gap in the labor force. There is a critical need to develop major centers of employment in this region to provide a diverse tax base as well as employment options to support the growing population base<sup>16</sup>. With more than half of West Chicago's population having no college education or degree, having nearby quality manufacturing, assembly, and distribution jobs are valuable ladders to success for individuals and communities.<sup>17</sup>

The DuPage County South DuPage Airport Corridor improvements are a necessary investment for promoting economic development that generates job opportunities for the residents of the surrounding communities and lowers the costs of transportation and commuting to employment centers located as far away as 30 to 40 miles in other parts of the Chicago metropolitan region. The proposed improvements will spur new development and help retain existing businesses in the adjacent industrial/commercial parks, expanding job opportunities for surrounding communities in DuPage and Kane counties.

The project will also directly improve traffic flow for people and goods moving through the key connecting roadways in this area leading to more efficient travel patterns. Fabyan Parkway roadway improvements will improve mobility to and from the DuPage Business Center, providing higher-quality access to any traffic generated by the businesses based there. The north-south connection between the extended Kautz Road and Fabyan Parkway will also enable vehicles to more directly access Roosevelt Road and the DuPage Airport. Improvements to Fabyan Parkway are also necessary to accommodate the projected increase in traffic that will occur once the many projects currently under development materialize. Two of the center's current tenants (DS Container and Simpson Strong-Tie) already generate a combined 1,217 trips

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<sup>15</sup> The Economic and Fiscal impact of the DuPage Airport Authority and Associated Activities on the DuPage and Kane Counties Economy, page 6.

<sup>16</sup> See Maps and Graphics Attachment for details on local economic conditions.

<sup>17</sup> Chicago Metropolitan Agency for Planning (CMAP) Community Data Snapshot, West Chicago, 2016.

per day. This number is expected to increase to 8,718 daily trips (an increase of 7,501 trips) once the Suncoast, Norix and other facilities come online.<sup>18</sup>

### **Supporting the Movement of Goods and People**

The DuPage County South DuPage Airport Corridor project and the surrounding industrial/commercial parks are in an area identified as a major goods producing and freight supportive cluster by the Chicago Metropolitan Agency for Planning (CMAP). The agency recommends increasing the level of exports from these clusters to foster economic growth. Both Kane and DuPage Counties recognize the crucial role exports can play in economic development. Both counties participate in Metro Chicago Exports, a collaboration between seven counties in northeastern Illinois to assist small and medium-sized firms in increasing their exports to foreign markets and expanding their trade networks. Several companies, including Doran Medical Scales, Micro Products and Brasel Products, located in Batavia's industrial park immediately south of Fabyan Parkway have previously received export grants from Kane County to help foster growth. With the amount of developable space available in the Southeast Subarea and DuPage Business Center, there is significant potential to encourage specialized export-oriented companies to locate here with the added incentive of new access and improved infrastructure because of the DuPage County South DuPage Airport Corridor project. Moreover, the proximity of DuPage Airport which supports small medical freight cargo is advantageous to companies that specialize in small medical supplies and equipment, such as Brasel Products.

Designated Class II local truck routes in the project area include Kirk Road, Fabyan Parkway extending from the Kane County line and sections of Kautz Road leading to and from DuPage Airport. Roosevelt Road is a Class II state truck route. Truck volume counts on these roadways point to the significance of freight movement in these corridors and the importance of upgrading and maintaining road infrastructure.<sup>19</sup> Current counts have truck percentages ranging from 9% on Fabyan Parkway to 14% or more on IL 38/Roosevelt Road. At off-peak periods, truck percentages often increase to more than 20% on area roads. The large amounts of freight movement through this area have necessitated extensive transportation infrastructure investments from local and regional agencies to date. Completed projects have included intersection improvements at Fabyan Parkway-Kirk Road, Fabyan Parkway-Roosevelt Road as well as the Kautz Road-Roosevelt Road grade separation over the Union Pacific Railroad (funded by the regional CREATE Program). Now, the Fabyan Parkway improvements and Kautz Road extension are the remaining significant infrastructure needs in this rapidly evolving area to effectively support freight mobility and economic development.

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<sup>18</sup> Numbers taken from "Copy of DBP Sites and TG Estimates" spreadsheet

<sup>19</sup> See Figure 2 in Maps and Graphics Attachment details on current traffic in the project area.



## D. Environmental Protection

The DuPage County South DuPage Airport Corridor project will support environmental objectives through more efficient movement and reducing peak and off-peak congestion in the project area and the surrounding region

Through the installation of fiber optic cable to link signals and systems, the County hopes to promote better coordination of traffic flow and better manage or minimize delays in the system. The County's mission, through its Central Signal System ITS Project (a previous BUILD grant application), is to extend its traffic monitoring capabilities within the County to include more than 80% of all signals, as well as achieve inter-operability with its peer municipal, county and state agencies. Inter-operability also means coordinating operations virtually and developing shared services agreements which the county and its peers are doing now. Doing so will create a greater efficiency and better environment throughout the region.

DuPage County is sensitive to floodplain and wetland issues and will be obtaining all necessary permits through the DuPage County Stormwater Division. Wetlands and Floodplains do exist in the South DuPage Airport Corridor. Figures 9 and 10 in the Maps and Graphics Attachment demonstrate the extent of the floodplain and wetlands.

## E. Quality of Life

This project will enhance the overall quality of life for residents, travelers, employees and others moving within and through the area. Safer and more efficient arterial roadways are critical to promote needed development in this area and accommodate the projected traffic volumes. Specific outcomes that will support the mobility and quality of life needs of all affected parties include:

1. Increased Mobility
2. Reduced Congestion and Delay
3. Pedestrian and bicycle connectivity
4. Access to regional recreational opportunities
5. Community economic benefits

### Increased Mobility

As documented in the prior section, job access is key to economic success in West Chicago. Local job access and lower transport costs play into a healthier and happier population.

### Reduced congestion and delay

DuPage County has produced 2040 traffic forecasts based on its Long Range Transportation Plan (LRTP) and Comprehensive Road Improvement Plan traffic model.<sup>20</sup> The 2020-2040 is currently under development and DuDOT staff have developed forecasts from adopted land use

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<sup>20</sup> [DuPage County 2010-2020 Comprehensive Road Improvement Plan](#).

assumptions (approved by County Board in 2018, including all proposed development in the project area).

Selecting the arterial highways within a 3-mile radius from the project center, DuDOT staff used the land use to calibrate 2015 daily and peak hour traffic movements, and to project traffic daily and peak hour volumes for the following conditions:

- 2015 Base Year Model
- 2040 No Build
- 2040 No Build with Fabyan Parkway Project Only
- 2040 No Build with Kautz Road Extension Project Only
- 2040 No Build with Kautz Reconstruction Project Only
- 2040 No Build with All Project Area projects

The 2040 NO Build included the 2040 Base Network with “committed” projects only. These are the projects identified in the regional CMAP TIP where funding is committed, and projects are programmed.

In summary, between 2015 and 2040 (under no build), daily traffic volumes are projected to increase by about 17.5% or a little more than 0.6% per year. Much of that growth is projected in the near term due to new development generated internal to the project area. In that same period, Vehicle Hours of Travel (VHT) are projected to increase by more than 22% and operating speeds are projected to decline from 38.3 to 35.4 mph (7.6%).

Under the 2040 Fabyan Parkway Only scenario, traffic volumes increase substantially over the 2015 and 2040 Base (31.8% and 12.1% respectively) owing to the latent demand for east-west capacity. Daily VHT will decrease from the 2040 No Build by over 1% but average operating speed will increase by over 7% to levels roughly equivalent to 2015.

The Kautz Road Extension Only scenario leaves Fabyan Parkway at current 2 lane design and implements the proposed 2/3 lane new alignment. This added capacity increases volumes in the study area over the 2040 No Build by approximately 8%. VHT also increases despite the new capacity by 1.5% but that new capacity and the change in vehicle flow and access manages to increase operating speeds through the system by 1.5 mph.

The Kautz Road Reconstruction Only scenario adds less than 1 lane-mile of capacity to the system and does not affect traffic signal operations. Consequently, the daily traffic volumes and daily VHT remain statistically equivalent to the 2040 No Build scenario. The effect of this project will likely be seen through crash reduction and truck travel efficiency.

The 2040 No Build with All South DuPage Airport Corridor project scenario results in a daily volume increase over the 2040 No Build of 14.5% and over 2015 existing of 30%. VHT in this scenario is about 1.5% less than in the 2040 No Build but average operating speed returns to about 39 miles per hour (almost 4 mph better than the 2040 No Build).

Similar results are seen in the peak periods though in most cases, commercial vehicle traffic tends to peak outside of the peak of adjacent street traffic.

A more detailed look at the benefits is presented as part of the Benefit Cost Analysis.

#### Bicycle and Pedestrian Connectivity/Access to Regional Recreational Opportunities

Having a better pedestrian and bicycle network for people to access jobs and recreational opportunities is one of the principal objectives of the Healthy Roads Initiative and DuPage County Regional Bikeway Plan in DuPage County.<sup>21</sup> Improvements in the South DuPage Airport Corridor project area will a) complete missing links for pedestrian access to regional trails, b) create easier connections to regional recreational opportunities like Fermi Lab and to local attractions such as the City of [St. Charles East Side Sports Complex](#).

#### Community Economic Benefits

DuPage Airport, the DuPage Business Center and the City of Geneva's Southeast subarea all purport to be major tax generators for their communities. A 2018 Report to the DuPage Airport Authority estimates that the existing DuPage Business Center generated more than \$1.3 million in property tax revenues in 2018. Local West Chicago school districts were the primary beneficiary of the revenues, followed by Park and Library districts and Fire districts. Property tax projections increase significantly under full development of the Business Center.

Airport and Business center exposure through added access will increase the likelihood of the area generating sales taxes and regional transportation authority sales taxes which are used to augment transit services.

## F. Innovation

The DuPage County South DuPage Airport Corridor project will include infrastructure that will contribute to the region-wide transportation management capabilities being led by the County. DuPage County and its project partners will coordinate with the State of Illinois to connect new signals to the existing State signal system on IL 38/Roosevelt Road. Fiber optic connections will promote a system approach to this growing corridor. The infrastructure to be installed for this project also establishes the groundwork for future ITS developments. Emerging technologies such as Transit Signal Priority (TSP), Autonomous and Connected Vehicle, Vehicle-to-Infrastructure (V2I), Vehicle-to-Vehicle (V2V) communications, and Adaptive Traffic Signal Control (ATSC) are all technologies that will require a robust network with high communications bandwidth and additional capacity for future needs. Expansion will provide a solid foundation for these and future technologies that can benefit transportation system users throughout the region. The communications and signal infrastructure being installed in this area will give the County the ability to integrate the system with its Central Signal System.

Additionally, the region is expanding its use of arterial rapid transit systems (ART). IL 38/Roosevelt Road is identified by PACE (the Suburban Bus Transit operator) as a future Pace "Pulse" or ART corridor.<sup>22</sup> It will be critical to the implementation of these plans that State and

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<sup>21</sup> [2008 DuPage County Regional Bike Plan](#).

<sup>22</sup> <https://pulse.pacebus.com/index.php/pulse-network-the-long-term-vision>

local agencies outfit the corridors with modern equipment that allow Transit Signal Priority (TSP). DuPage County has been working closely with these regional agencies and is currently working with them on proposed pilot TSP studies. As the TSP program grows, DuPage County plans to help the transit agency integrate their elements into to the County's expanded CSS.

With BUILD funding, DuPage County and its project partners will not only be able to significantly improve transportation operations in the short-term by enhancing existing infrastructure but will also lay the foundation to amplify project benefits through future partnerships, initiatives and emerging technologies.

As previously mentioned in Section III, page 10, DuPage County will be utilizing funds from its long-standing impact fee program. This program allows developers to dedicate right of way as leverage against impact fees. These credits generally offset fees and provide incentive for the developer to move efficiently through the permitting process.

## G. Partnership

DuPage County is the lead applicant for this application. The County is partnering with the City of Geneva, the City of St. Charles, and the City of West Chicago for inter-jurisdictional coordination of project implementation. These project partnerships are key to the success of the project. Additional regional partnerships exist, especially with IDOT, for traffic signal coordination implementation and with project letting and administration. Coordination with Kane County Division of Transportation will be necessary as well related to the construction of Fabyan Parkway.

The County will also partner with developers in the corridor regarding access to facilities, drainage and maintenance and will coordinate extensively with the DuPage County Stormwater Department regarding drainage and stormwater runoff.

Other agencies that the project team will partner with include the DuPage Airport Authority and the Illinois EPA (IEPA). DuPage County is a partner with the IEPA<sup>23</sup> in chloride, metals and sediment reduction. The County is a state in regional leader in working to reduce man-made pollutant impacts to the environment.

DuPage County's partnerships with municipalities, adjacent counties, and regional transportation agencies are fully aligned with regional planning efforts. Letters of supports from project partners and supporters are included with the Letters of Support Appendix.

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<sup>23</sup> <https://www2.illinois.gov/epa/Documents/iepa/water-quality/watershed-management/tmdls/reports/dupage-river-west-branch/west-branch-dupage.pdf#search=chloride%20reduction>

## V. Project Readiness

### Technical Feasibility

The South DuPage Airport Corridor Project includes proven methods and techniques using accepted standards established by the Illinois Department of Transportation. The project will utilize context sensitive design in the construction of the three roadways. All equipment and materials are readily available, and no solutions will require customization or special considerations. The required conduit and fiber optic cable installations, as well as peripheral improvements, will all follow standard IDOT construction requirements and can be readily installed by electrical contractors prequalified with IDOT.

Because the Kautz Road extension will require modification of the IDOT signal at IL 38/ Roosevelt Road and a new signal will be installed at Technology Boulevard and IL 38, permits and agreements will be required. These agreements are not anticipated to be an obstacle to project completion.

The proposed activities for this project will require right of way acquisition. The City of Geneva and City of St. Charles are currently involved in acquisition of the needed properties for the Kautz Road extension and reconstruction. DuPage County has approached developers and the City of West Chicago regarding Fabyan Parkway right of way and the mechanism for acquisition are in place.

Construction permits will be required from the Illinois Department of Transportation (IDOT) as a part of the project. The permit process is straightforward, and the County anticipates being able to obtain the required permit approvals within the project timeline. There are no known barriers or issues that may delay permits.

### Project Schedule

If the County is awarded BUILD funding for this project, DuDOT and project partners will utilize qualified consultants to prepare the design plans and move forward with the project letting. The County has the experience to successfully oversee the design and construction process. The anticipated schedule is shown in Table 4 below.

Assuming BUILD fund recipients would be announced in the fourth quarter of 2019, the anticipated schedule would include Environment Engineering through 2020. With design approvals, design would proceed in 2021 with anticipation of letting in September of 2021.

**Table 4 – DuPage County South DuPage Airport Corridor Project**

DuPage County South DuPage Airport Corridor Project																		
Calendar Year	2019		2020				2021				2022				2023			
Quarter	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Project Milestone</b>																		
<b>BUILD Application Due</b>																		
Fabyan Parkway	█																	
Kautz Road Extension	█																	
Kautz Road Reconstruction	█																	
<b>Award Notification</b>																		
Fabyan Parkway		█																
Kautz Road Extension		█																
Kautz Road Reconstruction		█																
<b>Environmental Eng</b>																		
Fabyan Parkway			█	█	█	█												
Kautz Road Extension			█	█	█	█												
Kautz Road Reconstruction			█	█	█	█												
<b>ROW Negotiations</b>																		
Fabyan Parkway							█	█	█	█								
Kautz Road Extension			█	█	█													
Kautz Road Reconstruction							█	█	█									
<b>Design Engineering</b>																		
Fabyan Parkway							█	█	█	█	█	█						
Kautz Road Extension			█	█	█	█												
Kautz Road Reconstruction							█	█	█	█	█							
<b>Permit and Federal Approvals</b>																		
Fabyan Parkway							█	█	█	█	█							
Kautz Road Extension							█	█	█	█	█							
Kautz Road Reconstruction							█	█	█	█	█							
<b>Intergovernmental Agreements</b>																		
Fabyan Parkway							█	█	█	█	█							
Kautz Road Extension							█	█	█	█	█							
Kautz Road Reconstruction							█	█	█	█	█							
<b>Project Letting</b>																		
Fabyan Parkway																		
Kautz Road Extension																		
Kautz Road Reconstruction																		
<b>Project Bid/Award/Construction</b>																		
Fabyan Parkway																		
Kautz Road Extension																		
Kautz Road Reconstruction																		

Right of way negotiations and acquisition would be undertaken in coordination with design engineering. Stormwater and IDOT permits and agreements would be pursued as part of design engineering. Construction would occur independently with Fabyan Parkway scheduled to require approximately two years to complete and the Kautz Road projects approximately one to one and a half years to complete.

### Required Approvals

The South DuPage Airport Project requires approvals for engineering, construction and traffic signal elements. With excavation activities, non-special waste permits will be required through IDOT. Traffic signal permits and agreements will be required for installation and modification of signals related to the project. Stormwater permits will be required from DuPage and Kane County Public Works agencies.

The design engineering follows the normal IDOT and federal process. Since the work is limited to public ROW owned by DuPage County and its partners, the work will be approved through intergovernmental agreements or permits. Approvals or permits are anticipated to be required from IDOT, City of Geneva, and City of St. Charles. Initial coordination between DuDOT and each of these partner agencies has already taken place during discussions about the project. DuDOT has very strong working relationships with each of these agencies and Kane County. The detailed submittals and approval process will be undertaken concurrently with the design to ensure that the necessary approvals are secured prior to the project letting.

## Project Risks and Mitigation Strategies

Based on previous experiences, this project does not include a significant amount of project risk.

One potential risk category is the time required for inter-agency coordination. The County has a strong working relationship with the municipal project partners and IDOT, and there is a possibility it may take longer than anticipated to obtain the necessary final approvals for this project. However, based on the County's experience with numerous other projects requiring agency coordination, any potential delays should be resolved well in advance of the statutory deadlines for obligating BUILD funds.

Another potential risk category is right of way acquisition. There is negligible risk, but it is not without precedent that a single property holder could cause delays if compensation terms cannot be resolved. DuPage County does not have eminent domain powers and may not "take" property without adjudication. In this eventuality, the responsible agency would seek an alternative design rather than to pursue action through the courts.

In the event physical connections through intersections under IDOT jurisdictions cannot be implemented, DuPage County will modify the project scope to utilize a Broadband Wireless Radio system instead of the proposed fiber optic interconnect system. This alternative will not affect the project budget or result in a cost increase, since there would be a corresponding decrease in the required quantities of fiber optic cable.

## Benefit-Cost Analysis

The Benefit-Cost Analysis (BCA) for the DuPage County South DuPage Airport Corridor project is based on three specific quantifiable benefit categories and accounts for all anticipated project costs. The results were evaluated in 2017 dollars and are reported for a future discount rate of 7 percent.

The project costs include the upfront construction and construction engineering costs as a one-time expenditure, which is assumed to occur in 2023. The recurring operations and maintenance costs for the project are estimated per lane mile added (4.8 lane-miles estimated) and an annual

incremental increase in maintenance costs over the current annual maintenance cost of the County highway system. The O&M costs were assumed to increase at a rate of about 2.5% per year corresponding with historical CPI numbers for the Chicago region. These O&M Costs will be funded by the DuPage County Division of Transportation and municipal operating budgets for Kautz Road.

The quantifiable benefits are evaluated in three categories: Travel Time Savings; Crash Savings; Emissions Benefits. Travel Time Savings is estimated based on modeled traffic in the subarea around the project. County staff utilized the TransCad regional traffic model produced for its Long Range Transportation Plan which spanned the 2015-2040 period. Analysis included the 2015 Base year, 2040 Base “Do Nothing” (which included all regional programmed/ obligated projects), 2040 “Don Nothing” Plus individual Fabyan and Kautz projects (taken separately) and one “Do Nothing” Scenario including all three separate projects. Land use included the development of the DuPage Business Center, the Geneva Southeast Subarea and complementary developments adjacent to the corridors under review. Results were evaluated for each in the daily and peak periods and traffic volume projections, vehicle hours of travel and average operating speed of the system under each scenario. Model coding does not account for reconstruction but add lane, signal and channelization edits were incorporated to the degree possible prior to final design.

The Crash Savings benefits of the project are estimated based on the assumption that the number of crashes will be reduced due to implementing engineering modifications along Fabyan Parkway and Kautz Road North. No crash benefits were computed for the Kautz Road extension as a new alignment. Due to proposed improvements and the changes that new development and access brings, it is extremely difficult to predict the system-wide response to the new patterns that will emerge. Fabyan Parkway improvements are likely to benefit IL 38/Roosevelt Road, but new traffic induced by capacity and access may bring about different types of accident. DuDOT staff utilized the applicable Crash Modification Factors (CMF) to calculate expected number of crash reductions. Key countermeasures introduced include the conversion of a 2 lane to a four-lane divided roadway, introduction of two-way left turn lanes, the installation of raised medians and the installation of curb and gutter.

Emissions Costs estimates are based on the expected additional fuel consumption that will be incurred by the project. Travel demand model iterations through the year 2040 yielded the projected increases to vehicle miles traveled, as well as the split between passenger vehicles and trucks. Increases in gasoline consumption were projected based on a known consumption rate at a given speed. Consumption was calculated based on modeled average speeds and differentiated by vehicle type. From that amount of additional fuel consumption, the amount of incurred carbon emissions was calculated based on a known per-gallon conversion rate of burned fuel to carbon dioxide. Additional greenhouse gases were also calculated from known per-gallon conversion rates. All rates are generally accepted conversions by the United States Environmental Protection Agency.



Although there are a great many potential benefits to be realized as a result of the project, the benefit-cost analysis recognizes that the project will induce traffic – additional throughput – because of the capacity added and will also accommodate additional internal travel. So, DuDOT is including fuel consumption and emission diseconomies in our benefit-cost model. These diseconomies are potentially offset on a more regional scale or a very localized scale due to more efficient circulation. These are economies that are difficult to capture in the model used by the County.

The results in each of the broad categories of benefits are summarized in Table 5 below in 2017 dollars at the 7% discount rate. The detailed analysis of quantified benefits is available in the DuPage County South DuPage Airport Corridor BCA attachment.

**Table 5: Selected South DuPage Airport Corridor Project Benefits**

SCOPE Project Components	Total Reduction	Average Yearly Reduction	Total Benefit Value (2017 Dollars)
<b>Travel Time Savings 2024-2040*</b>			
Reduction in Travel Time (hours)	250,640	14,744	\$ 6,969,188
<b>Crash Savings 2024-2040</b>			
Reduction in Crashes	See safety assumptions page in BCA for more details		\$ 63,940,141
<b>Emissions Benefits 2024-2040**</b>			
Reduction in Fuel Consumption (gallons)	No reduction due to induced traffic growth, see calculations for more detail		
Reduction in Greenhouse Gas (metric ton) (Excluding Carbon Dioxide)			
<b>Total Benefits at 7% discount rate (Excluding Carbon Dioxide)</b>			<b>\$ 39,755,750</b>

In addition to the above benefits, the analysis identified several other areas that are not quantifiable with the information currently available, but where the South DuPage Airport Corridor Project will still provide benefit to road users, first responders, road agencies throughout the project area and particularly businesses. Such benefits include:

- Enhanced regional transportation and public transit efficiencies through improved connectivity and coordination with other transportation agencies
- Active congestion management in the future
- Increased access for Business Center, City of Geneva Southeast Sub Area and DuPage Airport
- Ready signals and corridors for emerging technologies (i.e., TSP, Automated and Connected Vehicles, V2I, V2V, Travel Time Reporting)

- Crash benefits not accounted for due to limited crash modification factors (CMF) and data
- Additional emissions reductions associated with improved connectivity and traffic monitoring
- Improved mobility for transit vehicles through signal coordination

The BCA shows that the DuPage County South DuPage Airport Corridor project is an economically viable one that will provide significant benefits to residents and travelers in the County. A BCA summary is included in Table 6 below.

**Table 6: Benefit-Cost Analysis Summary**

Discount Rate	Total Cost	Total Benefits	Benefit-Cost Ratio
0%	\$ 30,870,721	\$ 67,169,834	2.2
7%	\$ 30,550,921	\$ 39,344,658	1.3