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October 20, 2014

Michael J. Scotti III
Freeborn & Peters LLP
311 South Wacker Drive
Suite 3000
Chicago, IL 60606

Subject: Traffic Safety Report Regarding Walter Strawn Drive Grade Crossing

Dear Mr. Scotti:

Please find my expert report regarding the above caption matter. Should you have any questions please feel free to contact me.

Introduction

At the request of attorney Michael J. Scotti I have undertaken a review of the potential closure of the Walter Strawn Drive Grade Crossing at the Union Pacific Railroad just west of Illinois Route 53 located in Elwood, Illinois ("Closure"), the effects on surrounding roadways and interstate highway systems and potential impacts to the overall safety of the traveling public in this area.

I am a professional engineer registered to practice in Illinois, Michigan, and Wisconsin. I obtained a Bachelor of Science in Civil Engineering from the University of Illinois in 1979 and a Master of Engineering Management from Northwestern University in 1984. I have over thirty years of experience in analysis and consulting regarding land use and facilities planning, transportation planning, and traffic engineering, including serving as DuPage County Engineer from 1986 to 1994. I am a Principal of CDM Smith and have been retained by CenterPoint as an expert witness in this matter. My representative professional experience is outlined in my resume, which is attached as Exhibit A, and incorporated herein.

My opinions regarding the potential closure of the Grade Crossing are based on my professional training and experience, a personal inspection of the relevant roadways that are in proximity to the Grade Crossing I undertook on June 5, 2014, my knowledge of the region's roadway system, my review of Illinois Department of Transportation ("IDOT") traffic counts which can be found at www.gettingaroundillinois.com/gai.htm?=#aadt# and my own independent investigation. Through my education and experience in dealing with a wide range of traffic and transportation system issues, I am familiar with the variety of ways in which changes in the roadway network, including



grade crossing closures, in one area of a regional roadway system can affect other nearby parts of that system.

As a result of my research and analysis regarding the effects of the potential Closure on the traffic patterns in the vicinity of the BNSF Logistics Park and CenterPoint Intermodal Center (CIC) North Campus and the region in general, I have developed the following initial findings and opinions:

- Walter Strawn Drive was constructed solely for the purpose of connecting Baseline Road to IL-53. Both Baseline Road and Walter Strawn Drive are classified by the Illinois Department of Transportation as major collector roads. Both of these roads were also constructed with funds provided by CenterPoint and the Illinois Department of Transportation.
- Walter Strawn Drive and Base Line Road were built by CenterPoint and the Illinois Department of Transportation to support large volumes of the heaviest trucks allowed on Illinois Highways.
- IL-53 has been designated a principal arterial road by the Illinois Department of Transportation and the Illinois Secretary of Transportation has designated IL-53 as part of the National Highway System.
- There are only two primary entrances to CIC, which are the West Entrance off of Interstate 55 via the interchange with Arsenal Road and the East entrance off of Illinois Route 53 utilizing Walter Strawn Drive.
- While CenterPoint Way and Laraway Road are open to trucks, they are subject to turn restrictions that prohibit trucks from using either road to access UP Terminal in the North Campus, although trucks with an origin or destination in the South Campus may legally use Centerpoint Way and Laraway Road.
- Most if not all trucks that exceed the Illinois statutory weight limit, but weigh less than 88,000 pounds ("Midweight Trucks") access the Northern CIC Campus, the UP Terminal entrance and APL by means of Walter Strawn Drive. These trucks generally carry Illinois grain for export.
- As a result of the Closure, the following restrictions and limitations would be placed upon all traffic entering and leaving the BNSF Logistics Park and the Northern CIC Campus:
 - (i) All vehicles will be barred from accessing the BNSF Logistics Park and CIC Northern Campus by means of the CIC Eastern entrance on Walter Strawn Drive.
 - (ii) "Midweight Trucks" only legal means of accessing either the BNSF Logistics Park or the CIC North Campus would be via Interstate 55 Arsenal Road Exit, which can only be accessed by first purchasing an overweight access permit from Will County. To make matters

worse, Will County is on record as refusing to increase the number of available permits. Under current conditions, those permits are impossible to obtain for most, if not all, Midweight Trucks that currently use Walter Strawn Road to reach the BNSF Logistics Park and the CIC North Campus. As a result, the Closure would effectively prohibit many Midweight Trucks from being able to access either the BNSF Logistics Park or the CIC North Campus potentially resulting in reduced Illinois grain exports.

- Currently, Walter Strawn Drive is the *sole* means by which trucks weighing in excess of 88,000 pounds can reach either the BNSF Logistics Park or the CIC North Campus. If the Closure is implemented, those trucks would be completely barred from the BNSF Logistics Park and the CIC North Campus.
- The Closure would force all traffic currently using Walter Strawn Drive to access the BNSF Logistics Park or the CIC North Campus to divert from their current routes to an alternate route. Depending on the origin and ultimate destination of the trip, vehicles may have to travel up to 22 additional miles and spend up to two more hours on the road than they do currently. In addition to imposing substantial costs on the entities that own, operate, or employ those vehicles, this increase in the time and distance such vehicles spend on the road will cause (i) additional opportunities for traffic accidents; (ii) additional traffic congestion within the CenterPoint Intermodal Center; (iii) more emissions into the environment, (iv) significant additional wear and tear to the Illinois roadway system; and (v) degrade the operation of the I-55/Arsenal Road interchange.
- The Illinois Department of Transportation (“IDOT”) performed a traffic count on Walter Strawn Drive in April of 2012 that showed a daily volume of approximately 5,000 vehicles and showed a trend of growth in traffic volume from the previous count.

Opinions

1. The Closure will redirect over 5,000 vehicles, including over 2,000 trucks, per day from Walter Strawn Drive to alternate routes. Most cars that currently utilize Walter Strawn Drive will likely divert to either Laraway Road or Manhattan-Arsenal Road to access the BNSF Logistics Park and CIC North Campus. Depending on gross vehicle weight, trucks will divert either to Laraway Road or to Arsenal Road via Interstate Route 55. This rerouting could create multiple new safety hazards, including additional truck traffic adjacent to an elementary school on Laraway Road, additional vehicles crossing existing grade crossings with the UPRR at Laraway Road and Manhattan-Arsenal Road, additional traffic congestion at the IL-53 interchange on I-80, which has already been identified as needing improvements by the Illinois Department of Transportation, and additional traffic congestion at the recently constructed Arsenal Road interchange with I-55, which was designed under the assumption that the BNSF Logistics Park and CIC North Campus would continue to be able to access IL-53 via Walter Strawn Drive. Under the standards accepted among



Michael J. Scotti III
October 20, 2014
Page 4

transportation professionals, it is poor practice to concentrate traffic on a single route unless that route has sufficient capacity reserves to handle that concentrated traffic during peak periods.

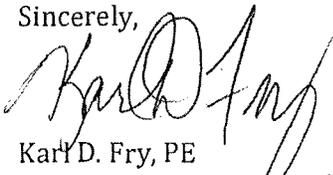
2. Rail crossings at "T" intersections like the one at Walter Strawn Drive/IL-53 are common in the Chicago area. Cities and municipalities have adopted a variety of measures to improve safety at these critical locations: for example, special signs and pavement markings; four-quadrant gate systems; emergency escape lanes; traffic signals that are actuated by advance warning of approaching trains; and crossing gates that are sensitive to the speed of oncoming trains. While some of these measures may currently be in place at the Walter Strawn Drive/IL-53 intersection, it is apparent that additional measures could be implemented. Additional improvements at the grade crossing could be implemented by the Village in cooperation with the UPRR and Illinois Commerce Commission which would improve safety for vehicles using the crossing.

3. In my opinion, while traffic and rail crossing safety is of primary importance in this matter, it is not prudent to close an existing heavily traveled roadway without considering the potential safety impacts on other roadways, intersections, grade crossings, and their adjacent land uses caused by the Closure.

4. Rerouting of traffic on the scale that would occur following the Closure should not be considered without first conducting a study by a qualified traffic engineering firm with the ability to model the traffic and safety impacts that that rerouting will have on other roadways in the region, as well as the Walter Strawn Drive grade crossing.

5. In my opinion, making Walter Strawn a one way road, allowing trucks to enter to CIC but not permitting them to exit the CIC via Walter Strawn still diverts half of the truck traffic and does not resolve the safety issues addressed above.

Sincerely,



Karl D. Fry, PE
Principal Civil Engineer / Senior Project Manager
CDM Smith Inc.

EXHIBIT A

Karl D. Fry, PE
Principal

With a very diverse background and more than 30 years of experience in transportation planning, traffic engineering, land use and facilities planning, project management, and business operations, Mr. Fry has successfully solved transportation problems for communities, counties and state agencies throughout the upper Midwest. In addition to his consulting experience, Mr. Fry served as the County Engineer for suburban DuPage County, then one of the fastest growing counties in the nation. While there, he implemented a greatly expanded capital improvement program, made significant improvements to maintenance operations, led efforts to improve network capacity through coordination of traffic signal systems, implemented the state's first transportation impact fee, and significantly expanded the county's regional multipurpose trail system. Representative project experience includes:

Traffic Engineering Annual Retainer, Illinois Tollway - Program Manager. Directs and coordinates the firm's efforts in developing annual traffic and revenue reports, accident reporting and analysis, traffic modeling and projections for alternative improvement

Experience Highlights

- 30 years - variety of transportation engineering and planning projects
- 10 years as a County Engineer for an urban county

scenarios and new potential routes, review of traffic, signing and maintenance of traffic plans for improvement projects, and development and implementation of new ITS and Electronic Toll Collection technologies. Recently this work included advance planning and feasibility studies for the Tollway's Move Illinois program, a 15-year, \$12

Billion investment in the region's transportation system. This effort included preliminary and investment-grade traffic and revenue studies, analysis of tolling alternatives, feasibility studies for new facilities, and preparation of master plans for ITS and Congestion pricing.

Western / Ashland Bus Rapid Transit and Transit Signal Priority Environmental Assessment and Conceptual Design, Chicago Transit Authority - Traffic Engineering Manager - Coordinated traffic engineering tasks for analysis of traffic impacts and development of operations plans for two 17-mile bus transit corridors. The project includes introduction of dedicated bus lanes in the center of the roadway, stations at half-mile intervals, elimination of one general purpose lane in each direction and left turn prohibitions. The analysis utilized Synchro for the entire corridor and was enhanced with detailed modeling using VISSIM in station areas and locations with greater potential traffic impacts.

Interstate 55 Environmental Assessment, Illinois DOT (Subconsultant to Stantec) - Principal in Charge - Led the alternatives development, travel demand modeling, traffic projections, and analysis of potential managed lanes along a 28 mile corridor from I-355 to I-90/94.

103rd Street Location Drainage Study, Oak Lawn, IL - Project Manager. CDM Smith is conducting a study to determine the potential for utilizing in-line storage to manage stormwater runoff and improve drainage in the vicinity of 103rd Street. The project will utilize Federal Surface Transportation System funds supplemented by matching funds from the Cook County Department of Transportation and Highways, the Metropolitan Water Reclamation District, and Village of Oak Lawn and will include full reconstruction of

Education

Master of Engineering Management, Northwestern University, Evanston, IL 1984

BS Civil Engineering, University of Illinois at Urbana-Champaign, 1979

Registrations

Professional Engineer:

IL - 062-040876
1983

MI - 6201048460
WI - 42325-6

Honors/Awards

Young Civil Engineer of the Year, Illinois Section, American Society of Civil Engineers, 1987

County Engineer of the Year, Illinois Association of County Engineers, 1994

Citizen Engineer of the Year, Illinois Section, American Society of Civil Engineers, 2004

the roadway, drainage improvements, traffic signal modernization, green infrastructure, and active transportation elements.

Statewide ITS Master Plan, Illinois DOT (Subconsultant to TranSmart) - Project Manager: Provide policy guidance and quality assurance for plan development.

Lathrop Homes Redevelopment - Chicago, IL - Project Manager: CDM Smith is providing full Civil Engineering services for site development on this project, which will redevelop the historic Chicago Housing Authority Lathrop Homes on the North Branch of the Chicago River. The project, to be built in three phases, will include replacement of all private drives and parking areas with pervious pavers, installation of new storm and sanitary sewers, water mains, and site utilities, area lighting, installation of green infrastructure including rain gardens, and recreational features along the riverfront, as well as all permitting and coordination with the CHA, City of Chicago and other regulatory agencies.

Traffic and Revenue Study, Confidential Client, Will County, IL - Project Manager: CDM Smith is preparing preliminary traffic and revenue estimates for the development of a new bridge over the DesPlaines River. The study includes traffic counts, speed surveys, enhancements to the CMAP regional travel demand model in the project vicinity, development of alternative tolling schemes, travel demand modeling to estimate toll sensitivity curves by time of day, and preparation of a project report.

Commercial Vehicle Pre-Clearance System Evaluation, Minnesota DOT - Principal in Charge: Directed preparation of a report that identified options for state DOTs to utilize ITS technologies streamline the process of motor carrier compliance with safety and weight regulations. The report summarized available alternatives, included a survey of other state DOTs, presented three relevant case studies, projected capital and operating costs of alternatives, and recommended a low-cost solution for Minnesota.

Traffic Engineering Project Management, Illinois DOT - Project Manager: Provide on-site engineering support for the District 1 Bureau of Traffic Operations. CDM Smith is performing design and permit reviews, developing temporary traffic management plans for special events, and assisting DOT staff in the development of maintenance of traffic and traffic control plans for arterial and expressway projects in the Chicago metropolitan area.

Inland Port Infrastructure Analysis, Will County, IL - Principal in Charge- Led a comprehensive study the impacts of two large intermodal facilities on future traffic, pavement condition, and regional job creation. The study included extensive stakeholder interviews, review of municipal development plans and annexation agreements, travel demand modeling, traffic forecasting, level of service analysis of the regional roadway network, assessment of long range road improvement needs and development of financing options.

Illinois State Rail Plan, Illinois DOT - Principal in Charge: Led an interdisciplinary team in the development of the state's first comprehensive rail plan that addresses both freight and passenger transport. The project includes extensive stakeholder interviews and numerous public information meetings. The resulting document will be compliant with Federal requirements and will be incorporated into the state's comprehensive transportation plan.

Illinois Aviation Economic Impact Study, Illinois Department of Transportation, Division of Aeronautics - Principal in Charge: Provided ongoing coordination with the

Professional Activities

Transportation Research Board Committee AHB-55 Subcommittee on Work Zone Traffic Modeling

Civic Activities

City of Naperville:

Transportation Management Advisory Committee Chairman 1989-2010

Plan Commission Member 1999-2003; Chairman 2003-05

Zoning Board of Appeals Member 2005-7; Chairman 2007-11

Department, assisted with public and stakeholder outreach, provided QA/QC of the Executive Summary and Final Plan documents and coordinated the production and publication of all project documentation.

Transportation Model Update, DuPage County, IL – Project Manager: Updated the County's travel demand model in support of the renewal of their transportation impact fee ordinance. Enhanced the model to allow the county to test numerous alternatives for land use and network improvement scenarios.

Traffic Impact Study, Bolingbrook, IL -- Project Manager: Analyzed traffic impacts of a proposed truck travel center on arterial operations and site circulation safety using SYNCHRO corridor analysis and VISSIM microsimulation software. Provided extensive public testimony at plan commission and village board meetings.

Bicycle Route Plan, Village of Frankfort, IL - Consultant: Developed a bicycle plan for a rapidly growing community to provide connectivity to existing trails and support developer requirements in the community's subdivision ordinance.

Annual Street Improvement Program, Glendale Heights, IL Project Engineer: Conducted field surveys, pavement cores, subsurface investigations and drainage investigations to develop the village's annual local street improvement program while remaining within the annual MFT improvement budget. Plans were prepared for a mix of pavement rehabilitation, reconstruction, and drainage improvements.

Project Manager, Transportation Impact Fee Program Development, Springfield, Illinois. Mr. Fry provided technical assistance and advice on policy issues in the development of the city's transportation impact fee ordinance.

Consultant, Impact Fee Implementation and Technical Assistance, Kane County, Illinois. As a consultant, Mr. Fry developed technical and administrative procedures for the operation and enforcement of the county's updated impact fee ordinance and provided on-call technical review and recommendations regarding individual impact assessments, improvement credits, and discount applications. He worked with an advisory committee and county staff to monitor effectiveness of ordinance in achieving county goals.

Consultant, Subdivision Ordinance Update, Kankakee County, Illinois. As a consultant, Mr. Fry met with key stakeholders and prepared a comprehensive update to the county's subdivision control ordinance, taking into account recent amendments to the county's stormwater and corridor management plans. In addition, he developed an approach to bring additional revenue to the county for roadway improvements.

Consultant, Traffic Impact Studies, Village of Hoffman Estates, Illinois. As a consultant, Mr. Fry assisted the village in resolving disputes regarding the assessment of transportation impact fees on unique development types.

Consultant, Impact Fee Program Update, Kane County, Illinois. As a consultant, Mr. Fry developed population and employment projections, updated travel demand and traffic models, and developed a comprehensive road improvement program and a revised impact fee ordinance using the facilities-driven model.

Consultant, Transportation Impact Fee Alternatives Study, Kane County, Illinois. As a consultant, Mr. Fry developed a conceptual design and provided technical support for substantial revisions to the county's transportation impact fee ordinance. He developed a

work program for the overall project. Mr. Fry also provided testimony at public hearings and advised on technical issues.

Consultant, Transportation Funding Alternatives Study, Kendall County, Illinois. Mr. Fry researched and documented potential sources of transportation funding for the county including sales and motor fuel taxes and negotiated developer fees and impact fees. He estimated potential funding levels. He also prepared draft legislation to authorize imposition of local option fuel tax and impact fees. He then presented findings to the Transportation Committee, county board and mayors, and Managers' Association.

Consultant, Transfer Station Impact Study, Kane County, Illinois. Mr. Fry researched and identified potential net traffic and transportation impacts of locating waste transfer stations within Kane County to support revisions to the county's solid waste plan.

Train Horn Rule Studies, Numerous Communities, Northeastern IL - Consultant. Prepared studies for numerous communities recommending actions to be taken to preserve and/or establish quiet zones under the 2005 revisions to Federal Railroad Administration rules.

25th Avenue at St. Charles Road Intersection Improvement, Bellwood, IL - Project manager. Conducted traffic study and prepared an intersection design study and project development report using Illinois DOT design criteria.

25th Avenue Grade Separation Study, Melrose Park, IL - Consultant. Provided technical review and management assistance for development of a grade separation between an arterial highway and a three-track main rail line. Alternatives considered included overpass, underpass and tunnel approaches due to right of way restrictions and railroad operations.

Union Pacific Railroad - Rochelle Grade Crossing Mitigation Plan, Ogle and Lee Counties, IL - Project manager. Performed traffic studies, prepared public meeting exhibits and documentation, provided local agency liaison, and prepared funding applications for a highway overpass that was necessitated by the construction of an intermodal facility

Union Pacific Railroad - Rochelle Roadway Improvements, Ogle County, IL - Project manager. Prepared plans and specifications for extension of two township roads and prepared preliminary plans for a grade separation of a third township road over the Union Pacific Railroad, all near Rochelle, Illinois.

Adlai Stevenson Expressway Reconstruction, Chicago, IL - Principal-in charge. Provided construction services for the reconstruction of two miles of Interstate 55 from Kedzie to California. The two-year project included construction of numerous bridges and retaining walls, high mast lighting, a pump station, and removal of an extensive amount of hazardous waste from excavated areas. The freeway was constructed under traffic at a cost of approximately \$50 million.

Bonner Road, Lake County, IL - Principal-in-charge. Prepared an addendum to a previously approved project development report to address drainage, bicycle coordination, and land acquisition concerns. Following approval, prepared plans, specifications, and estimates for nearly two miles of road construction on a new alignment. Improvements provided for bicycle lanes and eliminated a dangerous S-curve. The project included

channelization and signal modernization at several intersections and extensive coordination to obtain stormwater permits.

Cass Avenue, Darien, IL - Project manager. Evaluated improvement needs and prepared plans for widening and resurfacing one mile of urban arterial. Improvements included a bidirectional left turn lane, storm sewer modifications, stormwater detention, and related work. A public meeting was conducted to address community concerns. Extensive coordination and hydraulic calculations were necessary to obtain required stormwater permits.

Elgin Toll Plaza, Elgin, IL - Principal-in-charge. Provided design services for roadway widening and reconstruction of a barrier toll plaza on the Northwest Tollway (I-90) northwest of Chicago. The \$16 million project included widening the existing roadway and bridges from two to three lanes in each direction and constructing a new 13-lane barrier toll plaza, control buildings, and communications equipment. The plans provided for drainage improvements, new lighting, and upgraded signing. The plaza includes exclusive AVI lanes.

Interchange Traffic Study and Report, Naperville, IL - Project Manager. Developed a traffic model using the Synchro-3 computer program to evaluate the effectiveness in terms of travel-time savings from various alternative interchange and arterial roadway improvements. The model was also used to demonstrate travel-time savings resulting from previous project alternatives.

Oasis Redevelopment Program, Northeastern IL - Principal-in-charge. Provided market research, traffic studies, planning, architectural and engineering design, and implementation services for seven oasis locations on the Illinois Tollway. Identified opportunities for enhanced revenue from commercial operators as well as improved patron services. Developed a prototype design and RFP for design-build-operate-leaseback project delivery.

Paul Douglas/Crabtree Bicycle Trail, Schaumburg, IL - Principal-in-charge. Planned and designed a 5.8-mile enhancement project connecting several local and regional trails. The project included data collection, mapping, alignment studies, wetland delineation, hydraulic reports, structure plans, and creation of a project development report for FHWA review.

Service Plaza Long Range Plan, Pennsylvania Turnpike, Harrisburg, PA - Principal-in-charge. Developed a comprehensive plan to guide the redevelopment of the 22 service plazas along the 522-mile turnpike system. Tasks included evaluating the existing facilities, conducting motorist and market surveys, providing a benchmark study, preparing multiple facility and site design concepts, providing site selection, providing public involvement, and developing and evaluating financing and implementation strategies including multiple project delivery methods.

Toll Plaza Expansion and Roadway Widening, Northbrook, IL - Principal-in-charge. This project eliminated one of the worst traffic bottlenecks in the Chicago area by reconfiguring toll collection and ramp access to the Illinois Tollway. Included were the design of a new mainline barrier plaza and two ramp plazas, control buildings, access roads, tunnels, communications, AVI and toll collection equipment, and maintenance of traffic plans.

Traffic Study and Alternatives Analysis, DuPage County, IL - Project manager. Due to extensive community concern over planned improvements to Glen Ellyn Road, an independent review was performed of the plans for one intersection. The analysis included updated traffic counts and projections, signalized intersection capacity analysis, development of alternatives, and extensive public involvement. The study resulted in significant cost savings to the highway agency and improved public perception of the proposed improvements.

Travel Information Centers, Long Island, NY - Principal-in-charge. Project included a feasibility study and preliminary design for five new centers on the Long Island Expressway. Tasks included demand forecasting, site analysis and selection, public involvement program, cost estimating, and development of an RFP for private sector development of the new centers.

31st Street, Oak Brook, IL - Project director. Directed the planning, design, and construction of a 2.5-mile segment of county arterial highway. Residents and the municipality objected to widening the existing 2-lane road to a 5-lane urban cross section. All design decisions were carefully documented and used to successfully support the county's position in a lawsuit filed by the village to stop the road construction.

75th Street, DuPage County, IL - Project director. Oversaw the planning, design, and construction of a 7-mile regional arterial. Design elements included coordinated signal systems, a 30-foot landscaped median, and an innovative left turn layout that increased operational capacity by avoiding the need to allow only protected left turn movements.

County Farm Road Extension, Hanover Park, IL - Project director. Managed the planning, design, and construction of a 2-mile extension of an urban arterial highway. The project included provisions for construction of a future freeway interchange; a railroad underpass; park-and-ride; and access and coordination with the state DOT, the railroad, two counties, two municipalities, and a township.

Diehl Road, Naperville, IL - Project director. Directed the planning, design, and construction of a 1.5-mile segment of urban arterial. The project had been delayed for more than a decade due to the need to cross a half-mile section of forest preserve. Worked with forest preserve staff and county-elected officials to develop a compromise plan that met transportation needs while minimizing environmental impacts.

Eola Road, Aurora, IL - Project director. Directed the planning, design, and construction of a 3.5-mile urban arterial. Project elements included extensive stormwater management, wetland banking, grade separations with an interstate highway and a rail yard, closure of a multitrack rail crossing, and extensive land acquisition for the portion of the roadway on new alignment.

Powis Road Grade Separation, West Chicago, IL - Project director. Directed the planning, design, and construction of a new highway/railroad grade separation necessitated by expansion of the adjacent airport. The project used a unique combination of funding sources including FAA airport improvement, Illinois Division of Aeronautics, Illinois Commerce Commission, DuPage County, and railroad funds.

Transportation Impact Fee Ordinance, DuPage County, IL - Project director. Researched legal requirements, provided testimony during legislative hearings, and assisted in legislation development. Ordinance implementation required extensive traffic modeling

and highway improvement cost computations attributable to different types of land development. Efforts led to Illinois' first comprehensive transportation impact fee ordinance, which used the "needs-driven" approach to calculating fees. Following ordinance adoption, participated in legal defense as an expert witness.

Winfield Road Extension and Interchange, Warrenville, IL - Project director: Oversaw the planning, design, and construction of a new interchange with the I-88 East-West Tollway. The project included evaluation of overpass and underpass alternatives; relocation of 30-inch, 36-inch, and 8-inch high-pressure gas transmission mains; and innovative financing using impact fee credits, tax increment financing, and a calculation of increased toll revenue due to induced development in the vicinity of the interchange.

York Road over Salt Creek, Hinsdale, IL - Project director: Oversaw the planning and design of the historic Graue Mill Bridge replacement. The new structure was designed to include architectural elements from the historic structure while still meeting needs for increased capacity and bicycle/pedestrian access. Extensive coordination with adjacent municipalities and Forest Preserve was required.

Joe Orr Road, State Street to Cottage Grove Avenue, Chicago Heights, IL - Project manager: Prepared project development report and plans for the reconstruction of this 2-lane rural roadway to a 4-lane urban section with rigid pavement.

Nerge Road, Roselle Road to Meacham Road, Roselle and Elk Grove Village, IL - Project manager: Prepared project development report, plans, specifications, and land acquisition documents for a 2-mile urban arterial. The project was funded partially with FAUS funds and was completed on a fast-track basis to commit the funds on schedule.

North-South Tollway, DuPage County, IL - Right-of-way acquisition manager: Coordinated the preparation of land acquisition documents, appraisal and negotiation activities, and design revisions related to land acquisition issues. The 14-mile tollway required acquisition of more than 1,200 parcels.

Illinois Route 47, McHenry County, IL - Project engineer: Prepared project report (Categorical Exclusion Type III) for the 14-mile rehabilitation of Route 47. The project included reconfiguration of a complex 6-way intersection that had been a high-accident location.

Illinois Route 83, Crestwood, IL - Project engineer: Prepared preliminary design report (Categorical Exclusion Type II) for the rehabilitation of Illinois Route 83 from U.S. 45 to 135th Street. Tasks included preparation of location drainage studies at three locations, a hydraulic report, and two intersection design studies, as well as extensive public involvement. The preliminary plans followed 3R design guidelines. A public meeting was held to discuss project alternatives and receive public input.

Arlington Heights Road Grade Separation, Arlington Heights, IL - Design engineer: Prepared structure plans for two railroad bridges, two pedestrian bridges, and more than one mile of cantilevered retaining walls.