DRAFT

Illinois Route 53/120 Project

Blue Ribbon Advisory Council
Draft Resolution and Summary Report

April 13, 2012

This is a draft only, and it should serve as a tool to generate discussion and comments. The language and content are NOT final. This is your opportunity to provide input and suggest specific revisions, additions and deletions.

The comments you provide will be compiled and made available to all Council Members for discussion and deliberation during the April 20th Council meeting.

All comments must be received by 11:00am CST on Wednesday, April 18th.

To submit comments, please fill out the online comment form available at www.frego.com/route53

Team Acknowledgements

The Illinois Tollway worked in partnership with the Chicago Metropolitan Agency for Planning (CMAP) and Lake County Department of Transportation in implementing the work of the Council. In addition to Tollway consultants AECOM, CDM Smith and HNTB, several nationally recognized experts also assisted in the Council's work, including Applied Ecological Services, Fregonese Associates, Huff and Huff, and Walter Kulash.

Blue Ribbon Advisory Council Members

George Ranney	Council Co-chair, President and CEO, Metropolis Strategies
David Stolman	Council Co-chair, Lake County Board Chair
Gerald Adelmann	President and CEO, Openlands
MarySue Barrett	President, Metropolitan Planning Commission
Randy Blankenhorn	Executive Director, Chicago Metropolitan Agency for Planning
Jeff Braiman	Mayor of Buffalo Grove, representing Northwest Municipal Conference
Carolina Duque	Executive Director, Mano a Mano Resource Center
Chris Geiselhart	President, Lake County Audubon Society
Jacky Grimshaw	Vice President of Policy, The Center for Neighborhood Technology
Lynn Karner	Director, Lake County Building and Construction Trades Council
David Kennedy	Executive Director, American Council of Engineering Companies
Mark Knigge	Mayor of Wauconda, representing the Lake County Municipal League
Howard Learner	Executive Director, Environmental Law and Policy Center
Arlene Mulder	Mayor of Arlington Heights representing Northwest Conference of Mayors.
Jorge Ramirez	President, Chicago Federation of Labor
Leanne Redden	Sr. Deputy Executive Director, Regional Transportation Authority
Leon Rockingham	Mayor of North Chicago, representing Lake County Council of Mayors
Maria Rodriguez	Village President of Long Grove and Vice-Chair, Lake County Stormwater Management Commission
Kathy Ryg	President, Voices for Illinois Children and former State Representative
Michael Sands	Executive Director, Liberty Prairie Foundation
Ann Schneider	Acting Secretary of Transportation, Illinois Department of Transportation
Michael Sturino	President and CEO, Illinois Road and Transportation Builders Association
Jerry Weber	President, College of Lake County
Doug Whitley	President, Illinois Chamber of Commerce
Suzanne Zupec	Chair, Lake County Transportation Alliance

Ex-Officio Members

Representative Rita Mayfield	State Representative, 60th District, Democrat
Representative Sidney Mathias	State Representative, 53rd District, Republican
Senator Terry Link	State Senator, 30th District, Democrat
Senator Suzi Schmidt	State Senator, 31st District, Republican

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Introduction

Illinois Route 53/120 Project

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The Need for a New Road

The History of Route 53/120

The State of Illinois has long considered a northern extension of Illinois Route 53 through central Lake County. Since the early 1960s, the Illinois State Toll Highway Authority (The Tollway) and many other state and local agencies have been involved in planning for improvements in the Central Lake County Corridor. Over the years, growth in population, increasing environmental pressures, desires for new economic development and rising congestion have led to a revival of the conversation around a new road.

Most recently, the Chicago Metropolitan Agency for Planning (CMAP) included an extension of Route 53 and improvements to Route 120 in their comprehensive regional plan, GO TO 2040. The plan noted that an extension of Route 53 connecting to Route 120 could ease congestion that has resulted from Lake County's rapid development, and suggested the project could improve access and mobility in the county and the region as a whole. GO TO 2040 called for a 21st Century urban highway – a modern boulevard with a smaller footprint to minimize potential negative impacts while protecting the natural environment and preserving the character of nearby communities.

Moving the Project Foward

Making any corridor improvements will have significant secondary effects on the nearby communities of central Lake County that need to be thoughtfully considered. Improved access will stimulate economic and residential development, but it can also stimulate rapid and unplanned development, adversely affecting existing communities and sensitive ecological areas forever. In response to this need for a coordinated, transparent and accountable approach for planning a new road, a Blue Ribbon Advisory Council was established in the fall of 2011. The Council was tasked with developing a regional consensus on whether the Tollway should move forward, determine the scope and configuration, the design and elements, and to outline how to finance the project. The Council included public officials as well as representatives from business, labor, planning and environmental groups.

The recommendations of the Council and the outcomes of the Council's work are presented here in the **Resolution** and the **Summary Report**. The Resolution is organized around recommended performance requirements of a new road, suggested design characteristics (including specific characteristics for environmentally sensitive areas and hotspots), potential funding and financing options, and proposed next steps for the project. The Summary Report provides an overview of the Council's efforts leading to the Resolution and provides a more detailed background into the context of a new road for Lake County. It also provides the results of the scenario planning process and design workshop that the Council engaged.

Route 53/120 Project Area

The Route 53/120 project is intended to serve central Lake County extending north from the terminus of Route 53 and Lake Cook Road for 12.5 miles to just south of Route 120. The extension would continue to the east, where it would provide enhanced access and mobility to and from the existing interchange at I-94. It would also continue to the west, to provide new access and enhanced mobility to U.S. Route 12. Approximately 60% of the needed right of way is currently owned by the State of Illinois. While the general corridor for improvements has been defined, the exact location and configuration for improvements is not yet final. Ultimately, the extension must coexist with existing residential development and projected commercial development, as well as wetlands, agriculture and organic food production, and the natural environment, including many sensitive and conservation areas located throughout the corridor.

Figure X: Lake County and Project Area

Guiding Principles

The Role of Guiding Principles

To clarify the goals and direction of their work, the Blue Ribbon Advisory Council established a set of guiding principles in October 2011. Guiding principles are critical to decision making and implementation for any planning project because they serve to clearly define the outcomes that signify a project's success and the values of a community. The Route 53/120 Guiding Principles were integral to organizing the Council's working groups and the work performed throughout the process. They also guided questions about the importance of community connections, environmental impacts, congestion, improvements to the ways people get around, and how to pay for the project. The proposed Route 53/120 facility should reflect the guiding principles and the values that they establish, especially the use of innovative and environmentally beneficial design solutions to improve mobility and access within central Lake County.

Route 53/120 Guiding Principles

1. Enhance mobility and accessibility, and relieve congestion, in the Central Lake County Corridor.
2. Seek innovative design solutions for a safe, integrated, multi-modal corridor that preserves the environment and the character of nearby communities, and enhances their economic vitality.
3. Analyze potential funding options and pursue corridor concepts to the extent that they are financially viable, fiscally sustainable and equitable.
4. Minimize environmental and long term development impacts of transportation infrastructure and operations.
5. Promote environmental enhancements and sustainable practices in all aspects of project development, implementation and operations, and strive to improve the overall environment.
6. Promote diversity in all aspects of project development, implementation and operations.
7. Develop and apply innovations in all aspects of the project to create a 21st Century modern boulevard that serves as a national and international model.
8. Cooperate with agencies and municipalities to deliver the Council's work in a transparent and accountable manner.

The Council's Resolution for a Right-Sized Illinois Route 53/120

Executive Summary

Advisory Council Consensus

The Blue Ribbon Advisory Council has successfully reached a consensus view that a right-sized Illinois 53/120 project has sufficient merit and regional benefit to warrant further development. The Council's process represents a significant step forward in realizing a 21st Century "modern boulevard" in the central Lake County Corridor. The design and environmental requirements and commitments codified in this document provide a blueprint for detailed project development, and lay a solid foundation for additional coordination with local governments and other stakeholders.

The Council answers three questions that have guided this process:

Is there consensus for the Tollway to move forward?

The Council agrees that a new Route 53/120 project, built according to the requirements set forth in this resolution, should be constructed to enhance mobility, promote orderly development and ensure environmental sensitivity in the central Lake County Corridor.

What are the scope, configuration and design elements of a new roadway?

The Council agrees that the new Route 53 should be a four-lane, limited access, tolled parkway with a 45 mile-per-hour maximum operating speed. The Council stresses that design elements defined in this resolution – such as a depressed sections, earthen berms and stormwater treatment features – are essential requirements and shall not be considered optional during the detailed design process. The Council has developed proposed alignments for the configuration of Route 120, and all should be carried forward for further study during detailed design.

How should the project be financed?

The Council agrees that the project should be funded through the use of tolling, under a rate structure that includes congestion pricing and indexing of toll rates. The Council understands that other revenue options including local sources will be necessary to fund the project, and recommends a detailed plan be developed in coordination with local governments. The Council supports tolling existing Route 53 from Lake Cook Road to I-90 and a cooperative approach to develop a tolling plan that is equitable and uniform for all access points in Lake County; including adding tolls to existing un-tolled access points, adding tolls at the state border and adjusting the rates at the mainline Waukegan Plaza on the Tri-State Tollway. The Council also requires identification of local revenue sources, and supports the use of Tollway system generated revenues to enable this project and others vital to the region's mobility, economic development and quality of life.

Advisory Council Resolution Map

The Council Resolution Map provides a visual guide to the Council's consensus on the most important aspects of the Route 53/120 project. This inludes roadway design, interchange and crossing design, areas of potential economic development, sensitive lands, residential areas, and sites for stormwater treatment polishing areas. In the north, the three proposed alignment configurations for Route 120 are each represented on the map.

Right of Way and Corridor Definition

In general terms, the roadway corridor is 300 feet wide running north to south along Route 53 and varies between XXX up to 300 feet east to west, depending on the final alignment selected. The Illinois Department of Transportation has acquired and reserved a 300-foot wide right of way, primarily along Route 53. Final right of way needs will be dependent on a variety of design considerations including preferred roadway scenario, roadway alignment – horizontal and vertical, height and depth of berms, median width, stormwater management needs, off-site mitigation and enhancement, pedestrian accommodations, wildlife crossings, local road improvements, and interchange design.

A cost estimate of $200-$350 million is being held as a placeholder at this stage of the project. A more refined right of way evaluation will be conducted in future phases to define needs, identify ownership and parcel information and refine cost estimates. *Please note, this number will continue to be refined as the Council proceeds over the next month.*

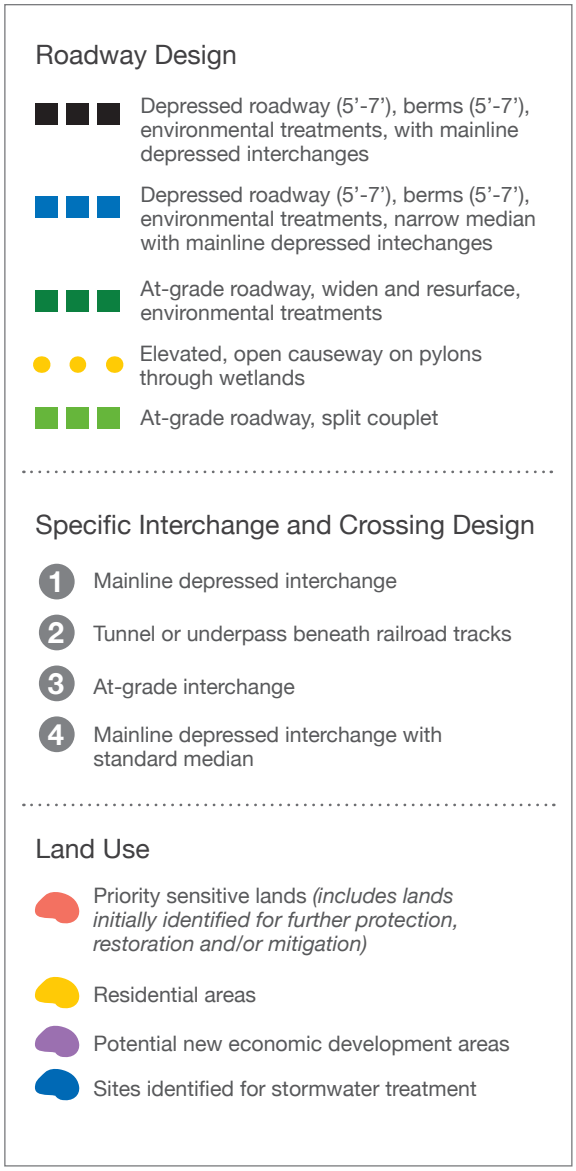
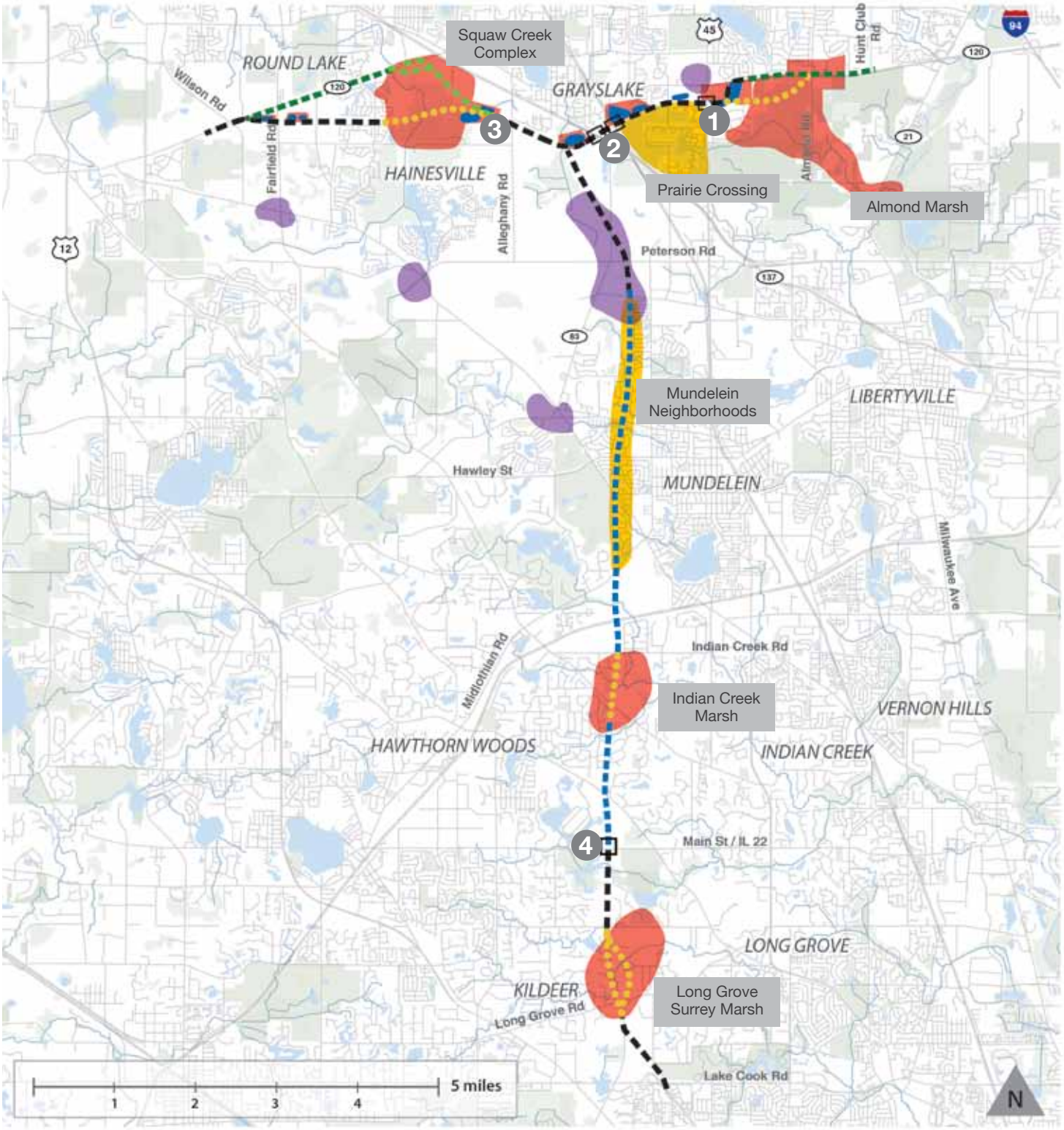


Figure X: Council Resolution Map



Advisory Council's Key Recommendations

From the Counci's consensus, five key recommendations have emerged that form the Council's Resolution on the best way to move forward with a right-sized Route 53/120 project. These recommendations are aligned with the Guiding Principles as well as the scope, configuration and design elements agreed upon by the Council.

1. Create a Transportation System That Preserves the Environment and Nearby Communities and Enhances Connectivity

In order to achieve a modern, sustainable and innovative transportation system that meets the goals of the Guiding Principles, the Council recommends a set of essential roadway **design standards** and **performance standards.** These standards describe the physical elements and the core functions of the new roadway as the Council has agreed to.

2. Design a Context Sensitive Roadway

The Council recommends specific context sensitive **roadway designs** for the proposed facility that directly respond to the environment and the communities around the right of way. A context sensitive approach ensures that the same design is not applied to the entire length of the roadway, but finds a balance between the goals of environment and open space preservation, mobility and accessibility.

3. Respect and Preserve the Land

The unique environment, habitat, and wildlife of Lake County require a comprehensive planning approach in order to reduce long-term and irreversible impacts from fragmentation and disturbance. The Council recommends creating restoration and monitoring plans, land preservation actions and identifies priority sensitive areas that require further protection.

4. Develop a Funding Plan That Works

Awaiting final decision and text for this section.

5. Create a Corridor Plan and Implementation Strategy

A corridor plan that integrates land use, transportation, economic development and open space is vital to the success of the Route 53/120 project. New roadway development can often bring unwanted results without adequate prior planning because of a rise in traffic, disruptions to environmental systems and lack of forethought about desired future land uses. The Council recommends creating a corridor plan that is based on the integration and preservation of open space and natural areas, multi-modal connections, market-feasible development, and congestion relief.

Next Steps

Presently, committment and leadership from CMAP, Lake County and local municipalities is necessary to catalyze the development of a corridor plan, to secure sufficient funding, to create a detailed design concept, and to secure legislative authorization.

Initiate the Corridor Plan

The Council recommends that the project is fully scoped, and that as soon as possible a commitment is obtained by CMAP, Lake County and the municipalities. In addition, both a final alignment should be determined and funding must be developed for the planning process.

Secure Funding to Close the Gap

In order to proceed on to a detailed design concept and beyond, a sizeable funding gap must be addressed. Funding from local sources should be explored, as should other innovative means of financing.

Develop a Detailed Design Concept

A detailed design concept should be developed in sufficient detail to fully understand the environmental, community and transportation impacts of construction, and to fully understand the capital and operating costs, and appropriate funding plan, for further consideration by the Council.

Secure Local, State, and Federal Authorizations

In order to proceed to the final stages of planning, design and construction for Route 53/120 a series of local, state and federal authorizations may need to be pursued including, but not limited to:

- Illinois General Assembly authorization to give the Tollway direction to build the roadway to the specified project limits, which may include portions of the existing Route 53
- Federal authorization to allow tolls to be added to existing federally funded roadways
- Authorization for final transit recommendations
- Changes to allow an extended borrowing term up to 35-years
- Transfer of and land, rights or other property held by the State of Illinois for the purpose of constructing and operating this project
- Legislation to support final local funding programs such as Value Capture, TIF Districts, Special Service Areas, etc.
- Countywide referenda or other authority to support final funding recommendations

A Continued Cooperative Approach

To move the Route 53/120 project forward, as well as to implement and monitor the performance and design requirements once it is completed, will require a coordinated effort from the Tollway, government agencies, community organizations, and local champions. To facilitate a cooperative approach, future planning should embody transparency, accountability, open discussion, and inclusive decision making.

Any steps forward with the proposed Illinois Route 53/120 project will involve the local communities of central Lake County as partners. The project shall engage the public and stakeholders at each stage, and opportunities for input and involvement will be tailored to the project stage and level of activity. Members of the Blue Ribbon Advisory Council will be kept informed of all activities and encouraged to remain involved. Should the project proceed to the point of construction, the Illinois Tollway will convene a Local Advisory Committee in accordance with the Toll Highway Act, where current members of the Council would be excellent candidates for the new advisory body.

1. Create a Transportation System That Preserves the Environment and Nearby Communities and Enhances Connectivity

A 21st Century, Modern Transportation System

As stated in the Guiding Principles, the proposed Route 53/120 corridor project is envisioned as a modern, multi-modal, sustainable and innovative transportation system that will addresses specific needs for congestion relief and greater connectivity while simultaneously preserving the nearby environment and the character of its existing neighborhoods and communities, and enhancing the economic vitality along the project corridor.

In order to achieve this vision, the Council recommends essential roadway **design standards** and **performance standards** that will ultimately guide the physical elements and the core functions of the new roadway and three potential **alignments** (locations) of the new roadway. The design and performance standards were crafted to ensure that the roadway meets the intentions of the Council and the Guiding Principles. These standards are essential requirements and shall not be considered optional during the recommended detailed design process. The Council intends for the Tollway to create a monitoring program to ensure the performance standards, and the measurable goals that they outline, are fullfilled in order to avoid and minimize future impacts of the road during construction and during the operational lifetime of the road.

This recommendation addresses the following Guiding Principles:

- Enhance mobility and accessibility, and relieve congestion in the Central Lake County Corridor.
- Seek innovative design solutions for a safe, integrated, multi-modal corridor that preserves the environment and the character of nearby communities, and enhances their economic vitality.
- Minimize environmental and long term development impacts of transportation infrastructure and operations.
- Promote environmental enhancements and sustainable practices in all aspects of project development, implementation and operations, and strive to improve the overall environment.
- Develop and apply innovations in all aspects of the project to create a 21st Century modern boulevard that serves as a national and international model.

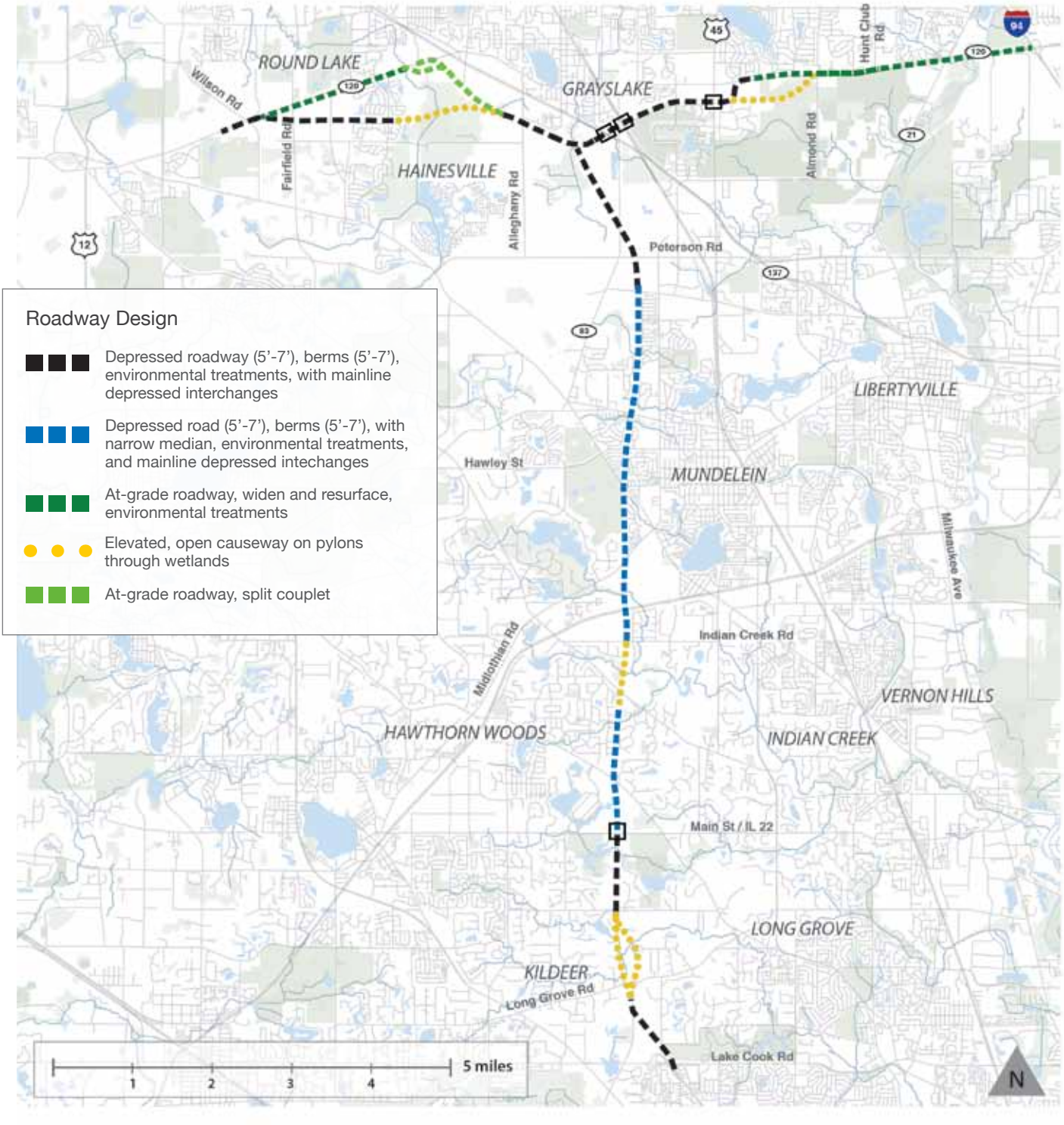
Route 53/120 Transportation System

Right of Way and Corridor Definition

In general terms, the roadway corridor is 300 feet wide running north to south along Route 53 and varies between XXX up to 300 feet east to west, depending on the final alignment selected. The Illinois Department of Transportation has acquired and reserved a 300-foot wide right of way, primarily along Route 53. Final right of way needs will be dependent on a variety of design considerations including preferred roadway scenario, roadway alignment – horizontal and vertical, height and depth of berms, median width, stormwater management needs, off-site mitigation and enhancement, pedestrian accommodations, wildlife crossings, local road improvements, and interchange design.

A cost estimate of $200-$350 million is being held as a placeholder for right of way acquisition at this stage of the project. A more refined right of way evaluation will be conducted in future phases to define needs, identify ownership and parcel information and refine cost estimates. *Please note, this number will continue to be refined as the Council proceeds over the next month.*

Figure X: Proposed Transportation System



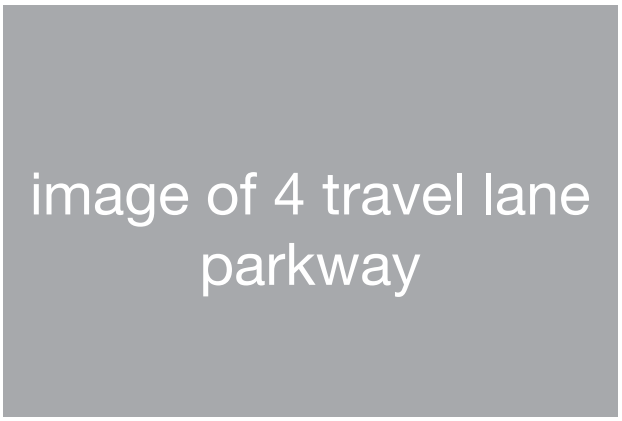
Design Standards for Route 53/120

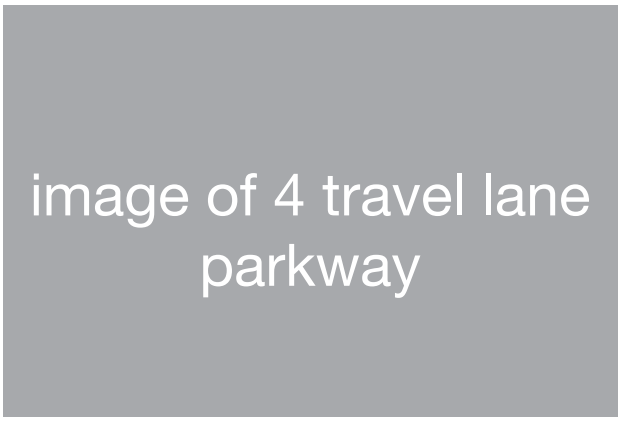
The purpose of the design standards is to articulate roadway design principles, guidelines and characteristcs proposed by the Council for development within the Route 53/120 project corridor. The design standards reflect the Council's minimum design criteria. The intent is to preserve the environment, protect and enhance the overall value and appearance of existing communities and to achieve a well-designed project that enhance connectivity and mobility. The design standards are not intended to restrict creative solutions and it is expected that they will continue to evolve as new technology and practices arise.

Route 53/120 Design Standards Summary:

- Utilize a Classic Parkway Design with Tolling
- Include Four Travel Lanes
- Design Roadway for a Maximum Operation Speed of 45 Miles per Hour
- Use Pricing for Congestion Relief
- Utilize Onsite Stormwater Management Techniques That Mimic Natural Systems
- Enhance the Views of Residents and Drivers
- Use Innovative Roadway Lighting Techniques When Necessary
- Make Local Roadway Improvements for Safety and Congestion Relief
- Maintain Local Road Connections
- Consider Local Road Roundabouts
- Improve Connections for Bicyclists and Pedestrians in the Project Corridor
- Ensure Pedestrian Safety
- Provide Accomodation for Transit

Design Standards for Route 53/120





Utilize a Classic Parkway Design with Tolling

The Route 53/120 facility will be designed as a limited access, tolled parkway with travel lanes in each direction. Where feasible, these travelways will be separated by a wide median that will serve to collect, store and treat stormwater runoff. Characteristic of a classic parkway, the corridor will preserve and showcase the natural scenic areas of central Lake County and will incorporate public access with a network of multi-use trails that connect to existing trails in the area.

Include Four Travel Lanes

The Route 53/120 facility will be designed with a total of four travel lanes, two in each direction.

Design Roadway for a Maximum Operation Speed of 45 Miles per Hour

The parkway will be designed to reinforce a maximum operating speed of 45 miles per hour (mph), and the speed limit will be set at no more than 45 mph. The advantages associated with a lower operating speed, including reduced noise and vehicle emissions, and a smaller road footprint were ranked higher than increased travel time benefits of higher speed alternatives. Additionally, a maximum design speed of 45 mph complements roadway designs that utilize curves and hills within the right of way.

Use Pricing for Congestion Relief

The Route 53/120 facility will employ congestion pricing to manage demand and traffic congestion. The Illinois Tollway would charge higher toll rates during congested periods to ensure the free flow of traffic and improve travel conditions on the facility and encourage drivers to make changes to more efficient travel behavior. These “efficient” behavior changes include shifting travel to off-peak instead of rush hour and shifting from vehicles with low occupancy to other higher occupancy alternatives such as carpooling or transit.

Design Standards for Route 53/120

Utilize On-site and Off-site Stormwater Management Techniques That Mimic Natural Systems

Route 53/120 shall use a four-step stormwater management system, called the Stormwater Treatment Train, that utilizes sequential components designed to treat stormwater runoff before it leaves the site to benefit water quality and to reduce stormwater runoff peaks and volumes. In contrast to conventional stormwater treatment, the stormwater treatment train routes stormwater from the built areas overland into open conveyance swales, planted with native prairie and wetland vegetation rather than through storm sewers. The swales provide initial infiltration and sedimentation treatment. The prairies then diffuse the flows conveyed by the swales. The reduced stormwater velocities maximize the prairie's sedimentation, infiltration and evaporative water treatment, and the natural adsorption and absorption of the prairie soils enables it to hold many contaminants. Further along, the water passes through more restored grasslands and wetlands to provide storage, and enhanced biological treatment and final polishing prior to the water entering receiving waterbodies. Receiving water bodies will receive clean water.

The project should create final polishing areas to ensure the water quality meets the performance requirements established in this resolution. The appropriate polishing treatment technologies, and their sizing, placement and operational needs will be determined during a later phase of highway design.

wetlands, prairie, swales

Enhance the Views of Residents and Drivers

Depressing the roadway whenever physcially feasible below the natural grade of the landscape will reduce views of the roadway. Adding a berm and landscaping of native plants wherever feasible between the roadway and adjacent properties will serve a dual purpose by partially screening views of the road from outside to further reduce negative visual impact of the roadway on adjacent lands, as well as add interest and color in the driver's sightline.

pretty views

Design Standards for Route 53/120

image of dark sky lighting

Use Innovative Roadway Lighting Techniques When Necessary

Currently, the Tollway only employs overhead lighting for roads that are at least eight lanes total, except at interchanges where lighting is required. Luminous paint is a standard application for all roadways. As a four-lane parkway, the Route 53/120 facility will only employ lighting at interchanges. This lighting will meet all "Dark Sky" requirements for new projects and will use full cut off roadway light fixtures to prevent light trespass and reduce sky glow, glare, and light clutter[1]. In order to control light pollution, no-spillover luminaries including shielding on the fixtures will be required and in-roadway lighting. LED high efficiency lighting methods will be required.

image of local connections

Make Local Roadway Improvements For Safety and Congestion Relief

The Route 53/120 design shall improve the ease of local circulation (for vehicles, pedestrians and bicyclists) and safety by widening a section of Route 120 to four lanes, by providing left turn lanes at all intersection approaches on the widened Route 120, by providing a median on Route 120 wherever appropriate, providing new and upgraded traffic signals on Route 120 as warranted, and by the grade separation of Route 120 at Route 83, Route 137 and the CN/CPRS rail lines. Improvements to the local crossing streets should also be made as needed to ensure safe and efficient travel service for all roadway users.

Toll revenues and project costs are based on improvements necessary to build, maintain and operate the project. Additional local road improvements are not included in the cost estimate and will need to be funded by other sources.

[1] http://www.greenroads.org

Design Standards for Route 53/120

Maintain Local Road Connections

Does the cost estimate include ALL connections?

The Route 53/120 project will maintain the existing connectivity of local streets that cross the right of way. These connections may be preserved with controlled interchanges or with overpasses and underpasses.

Consider Local Road Roundabouts

Roundabouts will be considered as an alternative to traffic signals at intersections in the project corridor, including intersections along crossing streets and intersections along Route 120 where the road may be widened but not tolled.

smaller, local roundabout

Improve Connections for Bicyclists and Pedestrians in the Project Corridor

The Route 53/120 project shall improve the connectivity of the bicycle and pedestrian network, by providing for a multi-use trail along the length of the new throughout the corridor (either in immediate right of way or within the more extensive road corridor). The continuity of bikeway and pedestrian routes (sidewalk or multi-use trails) shall be maintained on all roads intersecting with or crossing over or under the new segments of Route 53/120. On the widened segments of Route 120, the project shall accomodate sidewalks on both sides of the road and pedestrian signals and marked crosswalks at signalized intersections. Bike and pedestrian accomodations will comply with the state's Complete the Streets legislation and may require funding and maintenance arrangements.

show nature trails

The project shall also provide trail connections among conservation land holdings where possible. As part of any environmental mitigation and enhancement plan, there will be a commitment to provide connectivity between conservation lands. A trail system should be coordinated with the Forest Preserve District of Lake County, municipalities, Liberty Prairie Reserve, and the Active Transportation Alliance.

Design Standards for Route 53/120

Show the St. Louis SPUI at Kingshighway which shows a pedestrian bridge on the east side – Michelle to get

images for ped safety

Ensure Pedestrian Safety

The Route 53/120 project shall assure safety of pedestrian and other non-motorized users by providing for multi-use trail accomodations along the length of the new roadway throughout the corridor (either in immediate right of way of the new road or within the more extensive road corridor of purchased or available land). Where adjacent to the new segments of Route 53/120, the multi-use trail shall be either: (1) separated from the roadway or (2) on or under bridges, accommodated in a raised multi-use sidepath adjacent to the traveled way.

All bike and pedestrian accomodations will meet design and safety standards and comply with the Complete the Streets legislation. Any parallel bike and pedestrian facility will require additional financial considerations and maintenance by an agengy other than the Tollway.

Provide Accommodation for Transit

The Route 53/120 project will be designed to accommodate bus transit service, with the possibility of bus rapid transit in the future.

Performance Standards for Route 53/120

The Route 53/120 performance standards are an expression of the performance threshold(s), requirement(s), or expectation(s) proposed by the Council that must be met in order for the project to be considered successful. Objective, measurable and realistic performance standards have been established for each critical element of the proposed roadway.

Route 53/120 Performance Standards Summary:

- Protect Open Space
- Mitigate 100% of Direct Impacts
- Compensate for Wetland Impacts
- Compensate for All Other Impacts
- Ensure Plant Community Health
- Reduce Stormwater Volume
- Ensure the Highest Water Quality
- Protect and Enhance Streams
- Use Alternatives to Road Salt
- Improve Air Quality
- Reduce Neighborhood Traffic
- Reduce Travel Time
- Maintain Existing Speeds on Local Roads
- Reduce Traffic Noise
- Minimize Energy and Material Use

Performance Standards for Route 53/120

image of
open space

image of
mitigation

see Rocco's comment

Protect Open Space

The Route 53/120 project shall protect open space within the corridor area to reconnect now and future fragmented ecological systems created by the proposed roadway. As part of the recommended approach for land preservation, sensitive lands will be protected and enhanced, new lands added to existing high-quality parcels and integrate bridged and underpassage opportunities for wildlife crossings. Coordination with the local conservation groups and the Lake County Forest Preserve District will take place to assess and prioritize various land holdings. Land preservation should be concentrated within focus areas such as the Liberty Prairie Reserve, the Heron Creek and Egret Marsh Forest Preserves, Indian Creek Marsh, Squaw Creek area and carried out in accordance with existing conservation plans.

Mitigate 100% of Direct Impacts

Direct impacts (impacts within the right of way) to be compensated include the 100% of the raw acreage of land, and 100% of the regulated natural resources impacted that is equal to or calculated by any mitigation replacement ratio required by regulation, from impacts within the construction zone including but not limited to grading, filling requirements, and paved, graveled, and other surfaces created by the highway.

Compensate for Wetland Impacts

Direct unavoidable impacts to federal jurisdictional wetlands and waters of the United States, and Lake County Jurisdictional isolated wetlands and waters will be compensated at an overall average ratio that is higher than required by permitting agencies and at least 5:1.

Mitigation requirements under the federal and county regulations allows for the inclusion of some percentage of the mitigation to include protection, enhancement as well as wetland construction or restoration. Any mitigation will be designed, constructed, managed, monitored and will include required compliance reporting in accordance with relevant governing regulations and rules, agency guidance, and SMC plans or a stakeholder-guided plan developed for the project area.

Performance Standards for Route 53/120

Compensate for All Other Impacts

Legal protection will be secured for as much land area as necessary to provide 100% compensation for any unavoidable indirect impacts (beyond the construction zone) to natural resources as well as 100% of all direct impacts from construction, operations, and operations and maintenance for the right of way and any improvements outside the right of way. This includes any stormwater treatment management areas that are unable to meet their water volume and quality performance standards.

Compensation for all impacts to agricultural lands, other habitats, stream environments, and receiving water bodies will be addressed through the establishment of a) direct replacement as a part of the plan for the roadway, and b) integration of the replacement strategies with a corridor wide conservation plan, and c) through a to be established unanticipated impacts fund for addressing longer term presently unanticipatable potential impacts.

Ensure Plant Community Health

The wetland mitigation areas shall achieve a plant compositional assessment for the cover, frequency and diversity of plant species that achieves the compositional importance values found in the same ecosystem and community types based on the Illinois Natural Areas Inventory Data Base from Class B or better quality setting. Furthermore they attain a Floristic Quality Index score of at least 30 no more than five years following the completion of project construction (of the adjacent road segment) and meet the measurement requirements of the Lake County SMC and The Chicago District of the U.S. Army Corps of Engineers performance standards for wetland mitigation banks.

image of local environment

image of local plants/ vegetation

image of stormwater treatments facilities

Performance Standards for Route 53/120

Reduce Stormwater Volume

The Route 53/120 project shall treat 100% of stormwater generated for a 10-year event for water volume management purposes. The delivery hydrographs to all receiving water bodies will achieve a run off hydrograph consistent with generating a maximum of up to two bankfull stages in receiving streams or wetlands on average annually and meet the runoff volume reduction requirements of Lake County Watershed Development Ordinance.

Ensure the Highest Water Quality

The Route 53/120 project shall treat 100% of stormwater generated up to the two-year storm event for water quality management purposes. Water leaving the project will meet quality standards for key chemical and physical parameters defined as the highest quality (upper 10th percentile) measurements from the 2000-2011 Lake County Water Quality Parameter, Statistics Summary Report for lake and other water bodies in Lake County. Where higher feasible performance goals by the use of the Stormwater Treatment Train design are demonstrated in appropriate locations, they will be met.

Protect and Enhance Streams

The Route 53/120 project shall use best management practices to control erosion and sedimentation from construction and roadway operation. Streams and drainage ways crossing the corridor, including existing impaired streams will be restored (including bank, bed and channel restoration, revegetation, invasive plant removal, habitat enhancement, buffer replanting, etc.). The definition of restoration type and design will be the result of a two-step process:

- Completion of a “stream and drainage way asset inventory” investigation and
- Modeling of shear stress and hydraulic geometry changes.

Performance Standards for Route 53/120

Use Alternatives to Road Salt

The Route 53/120 project shall create a project-specific deicing plan based upon the public deicing plan that shall be established by the Illinois Tollway. The deicing plan shall be customized as necessary to meet all performance standards set forth by the Council including the elimination of chloride release into the surrounding ecosystem, and should contain the following:

- Defined salt or salt alternative application rates based on road temperature and impending weather conditions.
- An anti-icing approach, applying a deicer to the roadway before a frost or snowfall (based on weather forecasting and sensor data).
- A pre-wetting approach, rather than applying dry salt to roadways.
- Alternative deicing compounds, such as the sugar beet-derived formula developed by McHenry County DOT.

The Tollway uses remote sensors to provide data on pavement temperature and other weather data sensors so that maintenance staff can focus efforts to specific locations rather than mass distribution of deicing material. The Tollway will share weather and pavement data with surrounding agencies and road districts to enable coordination.

Performance Standards for Route 53/120

image of blue sky

Improve Air Quality

The Route 53/120 project shall meet and surpass by 10% National Ambient Air Quality Standards for the predicted concentrations of carbon monoxide and fine particulate matter at all receptors in the project area (residences within 0.5 miles of centerline) in 2040.

The Illinois Environmental Protection Agency and CMAP are responsible for demonstrating that proposed transportation projects in the Chicago area will not contribute to violations of federal air quality standards. This analysis of conformity with federal air quality standards has already been completed and approved for the Central Lake County corridor. Despite meeting this general regional requirement, localized air quality in the vicinity of the roadway could be further impaired from existing conditions.

A hotspot analysis will be conducted to estimate air pollutant concentrations actually experienced by people around the road, especially for fine particulates.

image of traffic

Reduce Neighborhood Traffic

The Route 53/120 project shall reduce existing through traffic (traffic with neither origin nor destination in the project corridor) in project corridor neighborhoods. This will be assessed to a certain extent through CMAP's traffic model which can estimate shifts in traffic patterns with the project compared to without the project. However the model does not include complete detail of all neighborhood road networks in the corridor. In these areas local knowledge of neighborhood roads and travel patterns must be used in combination with model results to identify neighborhoods with a potential for through traffic increases. Measures can then be taken to reduce this potential in these neighborhoods.

Performance Standards for Route 53/120

Reduce Travel Time

The Route 53/120 project shall result in a reduction of travel time for all trips within Lake County. The primary method for ascertaining this reduction shall be through comparison, between the proposed project and the no-build scenario, of the vehicle hours of travel on congested roads in Lake County as computed in the traffic model results (year 2040). Reduction in travel time will also be ascertained by the comparison, between the proposed project and the no-build scenario, of travel times between selected origin-destination pairs, using travel times as computed from the traffic model (year 2040) link speeds.

image of
congestion

Claire's local VMT change with the facility map?

Maintain Existing Speeds on Local Roads

The Route 53/120 project shall include measures to control vehicle speeds on local roads in the project corridor. Measures shall include limitation of road pavement width, turning restrictions, traffic control devices, roundabouts used as speed-control devices, and a wide variety of traffic calming devices such as chicanes, pavement narrowings, curb extensions, pavement texture segments, raised intersections, and speed tables.

image of
local road

Reduce Traffic Noise

The Route 53/120 project shall implement noise abatement measures when project traffic noise levels exceed 60 dB(A) at adjacent receptors. In areas where the 2040 no-build sound levels are projected to be higher than 60 dB(A), the project shall not increase the overall noise level in the initial year of operation by more than 3 dB(A) above actual measured values at the time of final engineering. A 3 dB(A) change in noise levels is generally accepted as the smallest perceptible change. This proposed standard is more stringent than the Federal Highway Administration standard of considering noise abatement when build noise levels approach 67 dB(A), which is defined as 66 dB(A) by the Illinois Department of Transportation.

The reduction of vehicle speed is one way to reduce traffic generated noise. Therefore, the proposed 45 mph operating speed throughout the corridor was chosen as the primary

Performance Standards for Route 53/120

method for reducing traffic noise. In addition, the roadway will be depressed below grade when physically feasible, and the land between the roadway and the outer edge of the right of way will be bermed and landscaped to further reduce the traffic noise.

Traffic noise studies will be conducted utilizing the latest version of the FHWA approved Traffic Noise Model for nearby receptors along the proposed Route 53/120. If the build traffic noise levels exceed the criteria outlined above, barrier analyses will be conducted to determine appropriate and feasible barriers to reduce the traffic noise levels to meet the criteria where possible. These barriers may consist of berms, retaining walls or noise walls.

image of construction

Minimize Energy and Material Use

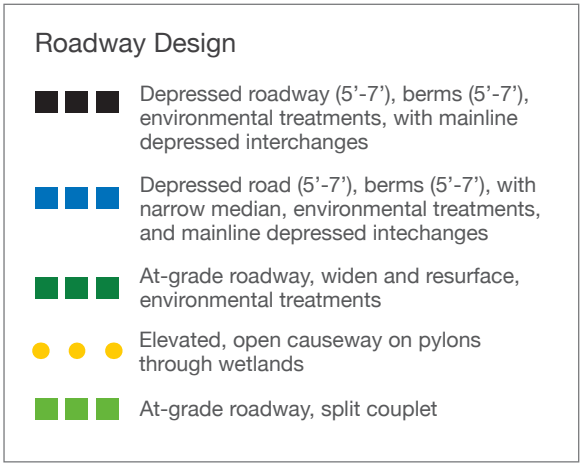
The Route 53/120 project shall meet the Illinois Livable and Sustainable Transportation (I-LAST) energy use and materials certifying points or the following certification requirements:

- All Illinois Tollway buildings within the project area should be LEED certified if they meet the occupancy and square footage requirements of the program.
- The prime contractor, design-build firm, or construction management firm should have an environmental management system (EMS) and be certified under ISO 14000 standards.
- The Route 53/120 should be certified under the Greenroads program and follow other green infrastructure sustainable programs and certification programs such as the new Zofnass Rating System for Infrastructure Sustainability.

During the design process for the road, value engineering will be aligned with sustainability, by conducting a comprehensive review of money savings strategies and a comprehensive matrix of strategies starting with the I-LAST documentation, using the ISO 14000 standards, the new ANSI SCS-001 and SCS 002 Life Cycle analysis protocols, the Zofnass Rating System for Infrastructure Sustainability.

Proposed Alignments

The Council has developed three options for the configuration and alignment of Route 120. All should be carried forward for further study during detailed design.



Alignment 1: Limited Bypass with Split Couplet

This alignment would bypass the existing Route 120 from east of Route 45 to west of Route 137. As the smallest bypass proposed, this alignment would avoid crossing identified sensitive areas to the west, including the Squaw Creek Complex, and to the east, including the Almond Marsh area.

A split couplet design is envisioned as an option for the western segment of the limited Route 120 bypass. Route 120 would remain a single four-lane road until just southeast of the oak savanna remnant along Route 120, just west of Hainesville Road and the railroad right of way. Along this bypass route, the oak grove and adjacent Big Sag Wetland Bank would be protected and a combined restoration plan would be developed that satisfies the wetland bank permit and prospectus requirements while simultaneously protecting, restoring, enhancing, managing, and monitoring this larger landscape.

Alignment 2: Western Bypass

This alignment would bypass the existing Route 120 from east of Route 45 to west of Fairfield Road. This alignment avoids crossing through identified sensitive areas to the east, including the Almond Marsh area; however would require crossing the Squaw Creek Complex to the west.

Alignment 3: Full Bypass

This alignment would bypass the existing Route 120 in the east from Almond Road to west of Fairfield Road. As the most extensive bypass proposed, this alignment would require crossing identified sensitive areas to the west, including the Squaw Creek Complex, and to the east, including the Almond Marsh area. The full bypass would provide a continuous access-controlled roadway connecting to I-94.

Figure X: Alignment 1: Limited Bypass with Split Couplet

Figure X: Alignment 2: Western Bypass

Figure X: Alignment 3: Full Bypass

2. Design a Context Sensitive Roadway

Context Sensitive Design

In addition to environmental performance requirements applicable to the whole Route 53/120 corridor, preliminary context sensitive design illustrations have been developed. These designs address multiple issues and are conceived as parts of an integrated response to environmental and community challenges. Context sensitive design considers the need to find a balance between the goals of environment and open space preservation, transportation mobility and land access. A one-size-fits-all approach to roadway design does not allow adjustments to roadways as they move through varying environments and communities.

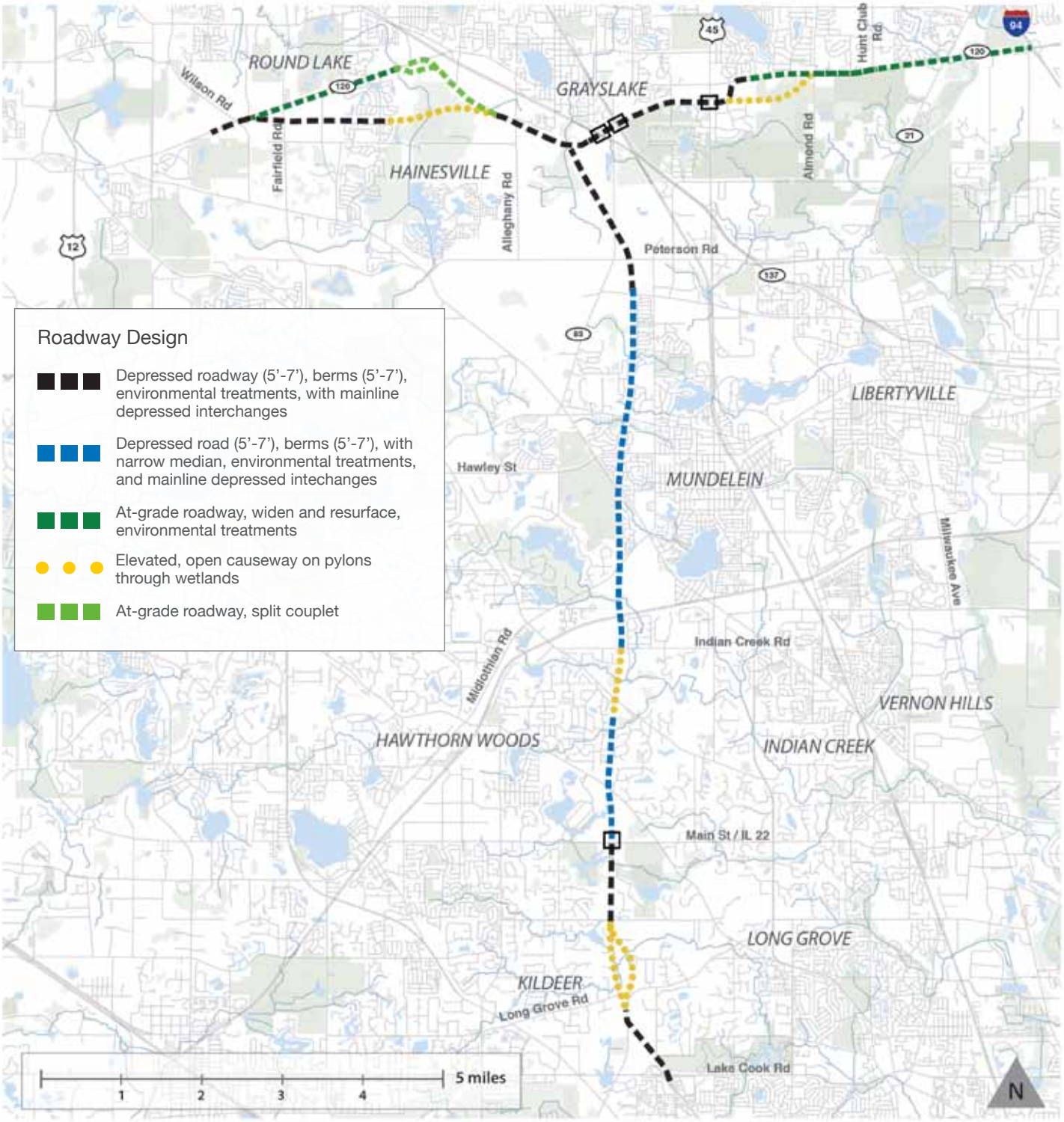
These roadway treatments are presented as a minimum design response to site specific issues and roadway performance standards within the corridor. If design and technology improve, and better results can be obtained with other design components, the Council would encourage such design treatments.

Please note that the figures included in this document are for illustration purposes only. They are meant to communicate an environmental approach, and do not address specific engineering detail or cost.

This recommendation addresses the following Guiding Principles:

- Seek innovative design solutions for a safe, integrated, multi-modal corridor that preserves the environment and the character of nearby communities, and enhances their economic vitality.
- Analyze potential funding options and pursue corridor concepts to the extent that they are financially viable, fiscally sustainable and equitable.
- Minimize environmental and long term development impacts of transportation infrastructure and operations.
- Promote environmental enhancements and sustainable practices in all aspects of project development, implementation and operations, and strive to improve the overall environment.
- Develop and apply innovations in all aspects of the project to create a 21st Century modern boulevard that serves as a national and international model.

Figure X: Route 53/120 Roadway Designs



Context Sensitive Design

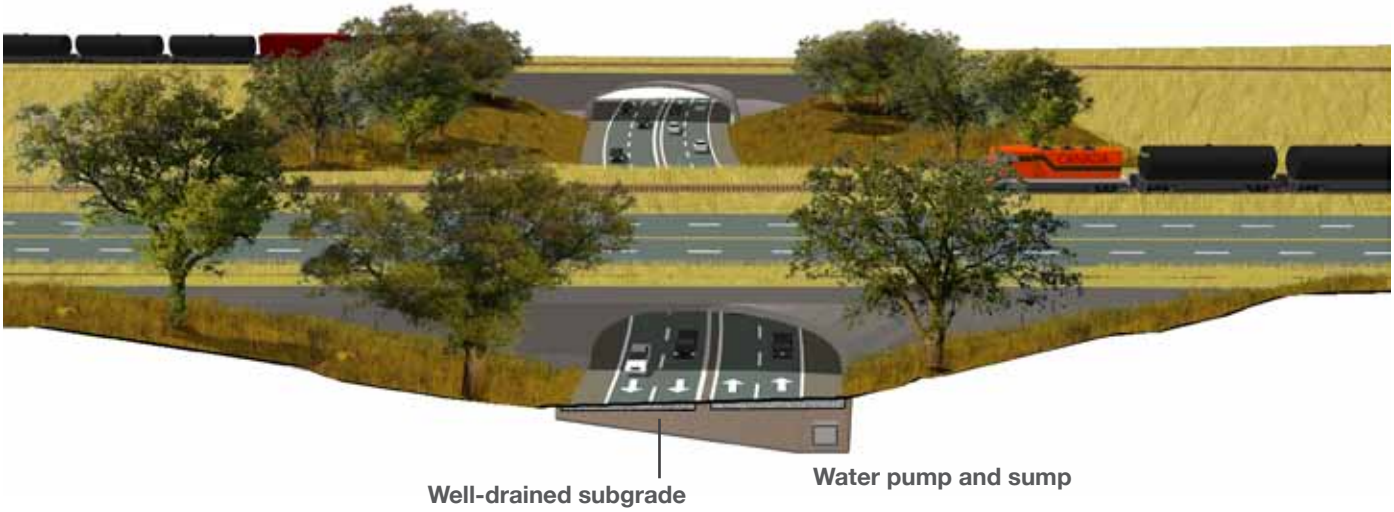
Roadway Design for Conservation and Organic Agriculture Lands

The roadway shall be depressed below grade and bermed with wide median and perimeter stormwater treatment systems that are linked to water polishing areas outside the right of way. Where the roadway crosses existing roads and railroads without an interchange, depressed conditions continue as underpass sections. These locations include beneath Route 137 and the two rail lines to the west, and as an underpass section beneath U.S. Route 45 and eastward and follow Grayslake Route 120 plan.

■■■ *Depressed roadway, berms, environmental treatments, with mainline depressed interchanges*

Specifications = 5'-7' berms, 12' lanes

□ *Tunnel or underpass beneath railroad*



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Context Sensitive Design

Roadway Design for Elevated Causeways

These sections will be pylon-supported causeways, designed to bridge and traverse poor soils and some unavoidable wetland features. These causeways will be elevated at the midpoint of the span in order to drain stormwater toward the landward ends of the causeway, where the water will be pretreated and final polished in internal and external water polishing areas. These roadway sections are also designed to enhance aesthetics of the roadway. Enclosure is a potential solution that would address several performance standards and concerns for sensitive areas, including noise reduction, the elimination of aerosol salt spray, and, if a vegetated lid is used, elimination of stormwater runoff. *(One option under consideration is to enclose these elevated causeways. This could be done using a covered bridge or a modular reinforced concrete "lid" with the possibility of a vegetated cover.)*

- *Elevated, open causeway on pylons through wetlands*

  Specifications = 12' lanes, barrier separated

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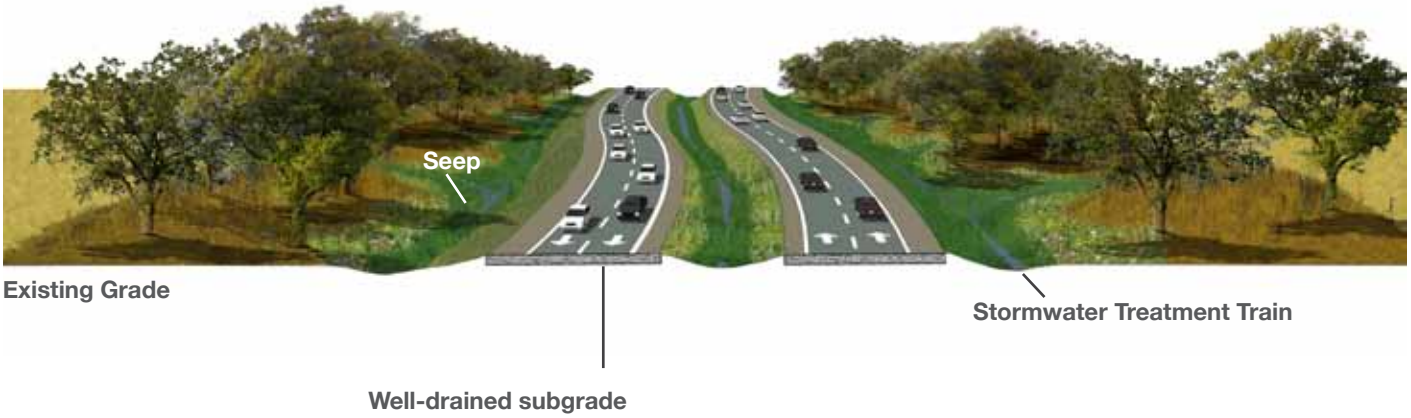
Context Sensitive Design

Roadway Design for At-Grade Segments

Roadway widening and additional lanes are proposed for sections of Route 120 on the eastern and western ends of the project area. In addition to widening, bioswales and other stormwater management features will be added to ensure these segments achieve the water quality and other hydrology performance requirements for the project. Also, it is not possible for the roadway to be depressed and bermed at every point along the corridor. Several sections of the roadway, particularly where a depressed roadway must merge at grade with other roadways, the road will need to return to ground surface grade.

At-grade roadway, widen and resurface, environmental treatments

Specifications = existing grade, 12' lanes



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Context Sensitive Design

Roadway Design for Residential Neighborhood

In residential neighborhoods, the roadways will be depressed below grade with elevated berms and stormwater pre-treatment features, but much narrower medians and road-margin water treatment areas to optimize the noise and visual barrier functions. Stormwater will be captured, pre-treated, and conveyed to external water polishing areas.

Depressed road, berms, environmental treatments, narrow median with mainline depressed intechanges

Specifications = depressed grade 5'-7', berms 5'-7', 12' lanes, barrier separated

Please note that the figures on this page are for illustration purposes only. They are meant to communicate an environmental approach, and do not address specific engineering detail or cost.

Context Sensitive Design

Roadway Design for Split Couplet Segments on Route 120

The roadways are at grade, installed in very sensitive manner to avoid damaging trees, wetlands or other environmental features along the routes. They are installed as entranceway features (as in the case of western leg of Route 120) to contribute to the experience of place and simultaneously to protect existing natural resources.

At-grade roadway, split couplet

Specifications = existing grade, 12' lanes

Please note that the figures on this page are for illustration purposes only. They are meant to communicate an environmental approach, and do not address specific engineering detail or cost.

3. Respect and Preserve the Land

Solutions for Sensitive Lands

Given the unique environmental landscape surrounding the Route 53/120 corridor project, the Council proposes a set of solutions intended to reduce long-term impacts on the environment, habitat, wildlife and sensitive lands within and near the project area. The solutions in this section are also intended to help meet the requirements of the performance standards that were presented earlier.

This recommendation addresses the following Guiding Principles:

- Seek innovative design solutions for a safe, integrated, multi-modal corridor that preserves the environment and the character of nearby communities, and enhances their economic vitality.
- Minimize environmental and long term development impacts of transportation infrastructure and operations.
- Promote environmental enhancements and sustainable practices in all aspects of project development, implementation and operations, and strive to improve the overall environment.
- Develop and apply innovations in all aspects of the project to create a 21st Century modern boulevard that serves as a national and international model.

Solutions for Land Preservation

Create a Lands Inventory

At the onset of the project, a comprehensive lands inventory should be completed.

Create Restoration and Monitoring Plans

Restoration, management, maintenance and monitoring plans and programs should be developed for all hot spots and other environmentally sensitive locations, including the stormwater management treatment areas, created within, adjacent to, and outside of the right of way. These plans shall meet the approval of agencies, landowners, and other stake holders (such as Liberty Prairie Conservancy, Long Grove Open Space Group, and Home Owner Associations, Illinois Nature Preserves Commission, Illinois Department of Natural Resources, Lake County Forest Preserve and others).

Create Plans to Offset Habitat Fragmentation

Technical and operational plans for protecting, restoring, managing, and enhancing habitat connectivity and continuity shall be created, reviewed and approved by various agencies, landowners, the Illinois Nature Preserves Commission (where appropriate) and other stakeholders (such as Liberty Prairie Conservancy, Long Grove Open Space group, Lake County Forest Preserve District) and others as appropriate.

These plans shall indicate how to affirmatively and completely offset and compensate for the short-term, long-term and cumulative impacts of the highway that cause fragmentation of wildlife habitat. The plans shall create a network and system of wildlife crossing structures and approaches for specific locations as needed to support the safe passage of the full range of wildlife groups and species across the landscape, through waterways and drainage networks, crossed or abutting wetlands, or movement between habitat patches. As a part of this planning process, the habitats and movement patterns for particular species will be characterized to create the specific strategies to address fragmentation as a part of the a site-specific wildlife assessments used to determine the locations, specific design options and needs for wildlife crossings.

Preserve Land to Reduce Fragmentation

The goal is to reconnect fragmented ecological systems, whether fragmentation that exists today or fragmentation created by the proposed roadway. Land preservation shall be concentrated in accordance with existing plans – notably in the Liberty Prairie Reserve, the Heron Creek and Egret Marsh Forest Preserves, Indian Creek Marsh, Squaw Creek area, and other important natural resource features – but can be accomplished outside the focus areas if sufficient land is not available within these areas.

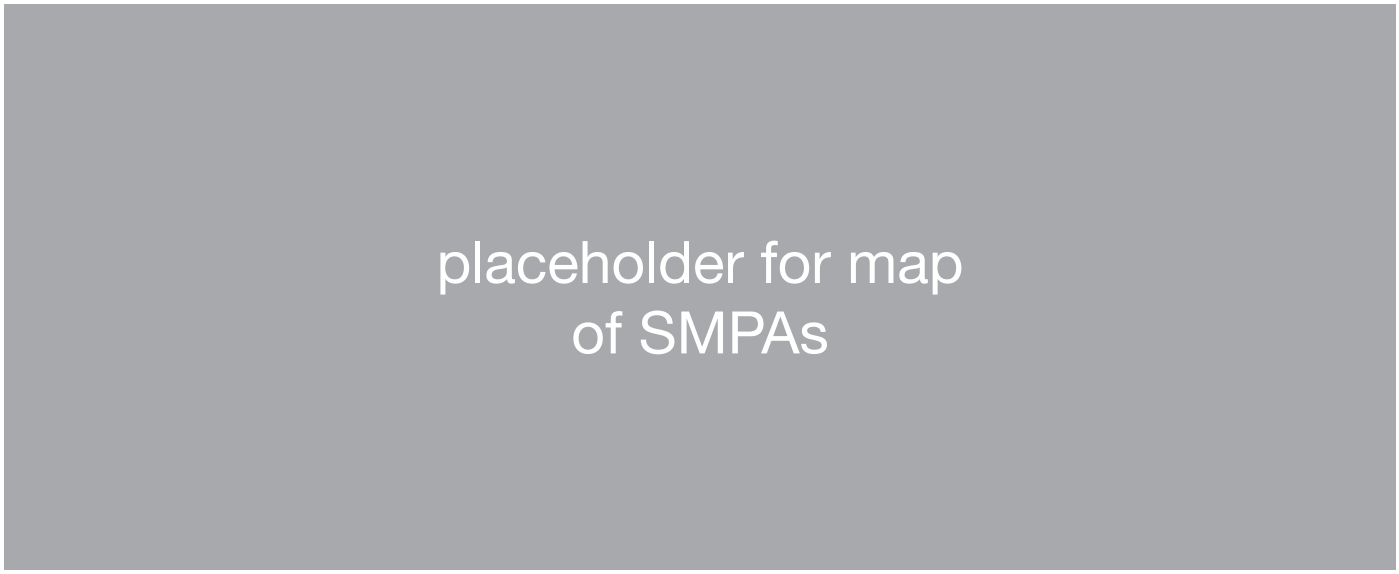
Solutions for Land Preservation

Create Stormwater Management Polishing Areas

Several of the largest locations have been identified in preliminary analysis for external polishing of stormwater adjacent to the Route 53/120 corridor. In the right of way, Stormwater Treatment Trains will be designed to pre-treat all stormwater by removal of suspended solids and contaminants, through long residence time and long flow path length swales, upland grass landscapes, and redundant restored landscape wetland features of varying depths through which the stormwater is passed, and subjected to aerobic and anaerobic treatment to strip and hold or metabolize and dissipate chemical constituents such as nitrogen, oil and grease, and many combustion byproducts.

The final elements of the Stormwater Treatment Train are the external stormwater management polishing areas, which are designed to create final polishing of the water prior to release into receiving water bodies. In association with these polishing areas, some very specialized additional polishing strategies should be deployed to ensure the water quality meets the performance requirements.

The appropriate polishing treatment technologies, and their sizing, placement and operational needs will be determined during a later phase of roadway design. Their placement will prioritize existing drained hydric soils and surrounding restorable upland settings, but in some locations, it is likely that excavations of existing prior wetland fill areas will be required entirely, or in part, to accomplish the water quality performance requirements.



Select Priority Sites for Restoration and Enhancement

Preliminary analysis has identified several priority locations along the Route 53/120 right of way have been identified for expanded land protection and restoration. These areas include, but are not limited to, Squaw Creek Wetlands Complex, Almond Marsh, Indian Creek Wetlands and the Surrey Marsh. In order to reconnect landscapes for wildlife, habitat, human recreation, and hydrology features, thorough inventory, modeling and analysis will be necessary to identify additional restoration and land protection areas. In each of the priority locations stewardship plans will be prepared to:

- Restore and enhance the existing upland buffers such as by removal of invasive buckthorn and by restoration of oak savanna systems present.
- Restore and enhance existing wetlands through invasive plant management, restoration of water levels and hydrological linkages (such as at Almond Marsh where tile failures are increasing the flood levels in the North Almond marsh basin, and at Arbor vista, to reconnect tiles that are failing at Route 45).
- Restore areas of hydric soils that are now dewatered by tiles and/or ditches.

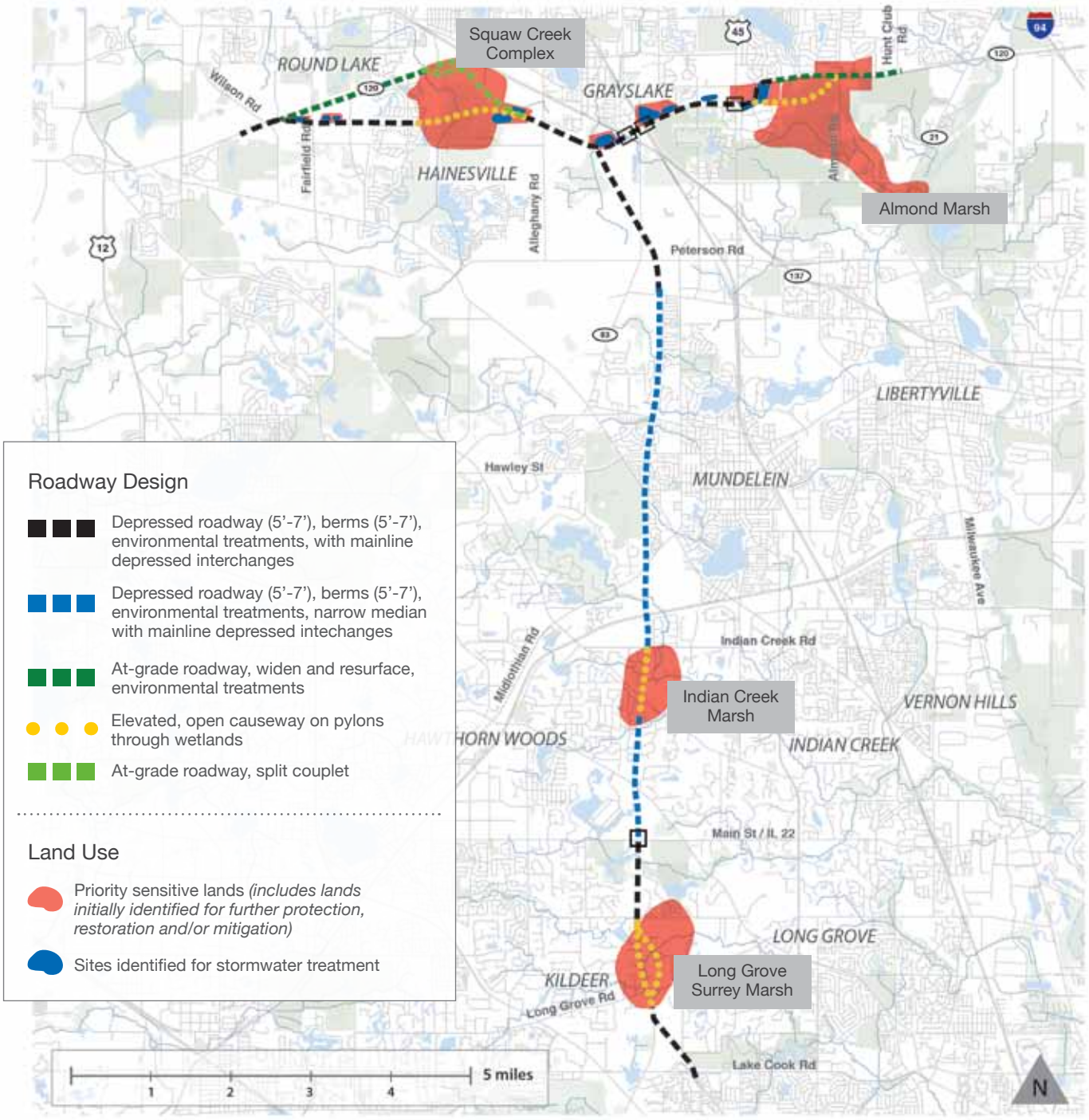
In the **Almond Marsh** area, nearly all properties are already under land protection programs; with the exception of several parcels along Route 120 where protection is still needed. The primary focus will be in recreating the failed hydraulic links, restoration, enhancement, perpetual management and conditions monitoring. A trail corridor as a pedestrian underpass under the new road at Almond Road is envisioned to connect conservation lands north of Route 120 and south of Route 120 along or abutting the Almond Road corridor.

In the **Squaw Creek Wetlands Complex**, this could include the purchase of the remaining existing Sag wetland bank and the credits yielded by the bank, as well as other land protection and restoration opportunities. This program will restore large remaining drained hydric soil units, protect and restore the oak savanna along Route 120, and provide perpetual stewardship, land management and monitoring.

The **Indian Creek Marsh** is proposed to be bridged by an elevated causeway road treatment. The treatment includes the restoration and maintenance and perpetual stewardship and monitoring of the marsh, upland buffers to the marsh and stormwater treatment management areas that would be established on both ends of the elevated causeway.

The **Surrey Marsh** area is in serious state of ecological decline. Some areas would be restored, some existing moderate quality marsh area would be enhanced, and a perpetual stewardship and monitoring program would be established and deployed to ensure restoration success.

Figure X: Priority Sites for Restoration and Enhancement



Additional Goals for the Priority Sites

Grayslake Bypass: Route 53 to Routes 45 and 120

- Minimize aerosol, ground and surface water contamination through a) reduced road footprint and meandering the roadway, b) depressing road surface into the shallow ground water table and c) asymmetric berming above grade areas along the road to reduce aerosol dispersal of salt and other contaminants.
- Reduce, capture, and cleanse contaminated stormwater so they do not impact agricultural lands.
- Move the road within the right of way farthest away from sensitive lands and legally protected nature preserves to avoid direct and indirect impacts.
- Minimize direct runoff and subsurface flows toward to farmland, protected areas, and nature preserves.
- Reduce noise impacts with depression of the road and berming.
- Minimize visual intrusion of the road.

Long Grove, Surrey Marsh to Route 22

- Minimize impacts to slopes, oaks, and slope stability.
- Minimize impacts to wetlands.
- Minimize direct and indirect impacts to preserves, rare species, hydrology, light, noise and stream channel instability.
- Minimize contaminant effects that will encourage invasive species and further deterioration of the natural resources in these areas.
- Reduce noise and visual impacts.
- Develop an innovative interchange in the vicinity of Route 22.

Indian Creek and Squaw Creek Wetland Complex

- Restore and enhance the existing upland buffers such as by removal of invasive buckthorn and by restoration of oak savanna systems present.
- Restore and enhance existing wetlands through invasive plant management, restoration of water levels and hydrological linkages.
- Restore areas of hydric soils that are now dewatered by tiles and/or ditches.

Residential Area Treatments for Optimizing Environmental Sensitivity in All Remaining Locations

- Avoid and minimize impacts to existing natural resources and hydrological features including recharge locations.
- Slow vehicle average speeds down to reduce aerosol contaminant mobility, wildlife mortality impacts from vehicle collisions, and to reduce congestion.
- Provide connections of forest, savanna, and wetlands through restoration to provide for increased, improved, and extensions of existing habitat and ecosystems.
- Identify stormwater runoff management and polishing areas throughout the right of way and future median area.
- Minimize and contain surface, ground and aerosol waters within the right of way.
- Direct all stormwater and intercepted ground water in all reaches of the highway and direct them to a natural appearing depressed stormwater treatment train.
- Create wildlife crossings over the roadway and beneath the roadway and coordinate their placement where additional conservation and recreational connections can be made across the landscape.
- Minimize noise impacts.
- Protect agricultural lands and consider options for growing crops for water cleansing and energy production.
- Protect watersheds areas that support base flow.
- Use wildlife hazard fencing.
- Be the first climate friendly roadway on earth that has offset its total embedded GHG emissions.

4. Develop a Funding Plan that Works

Preliminary Funding Plan

These are all sketch level estimates based on the level of information available at the time of this study. As the project proceeds numbers presented will be refined and adjusted as necessary to represent improved level of information and field conditions.

This recommendation addresses the following Guiding Principles:

- Analyze potential funding options and pursue corridor concepts to the extent that they are financially viable, fiscally sustainable and equitable.
- Cooperate with agencies and municipalities to deliver the Council's work in a transparent and accountable manner.

Route 53/120 Funding and Financing Options

Revised April 4, 2012

Baseline

Cost, revenue and bonding capacity estimates have been updated since the March 12th Mobility and Finance Working Group meeting. Cost estimates have been refined to account for tolled and non-tolled portions of each roadway alignment. This more detailed assessment has also resulted in an overall decrease to project costs.

Baseline Estimates	**Alignment 1**	**Alignment 2**	**Alignment 3**
TOTAL COST	***$1.939B - $2.082B***	***$2.107B - $2.275B***	***$2.228B - $2.502B***
Cost for **TOLLED** portions	$1.521B - $1.633B	$1.808B - $1.952B	$2.046B - $2.199B
Cost for **NON-TOLLED** portions	$418M - $449M	$299M - $323M	$282M - $303M
REVENUE 2025 - 2040 gross annual revenue based on .20 per mile for passenger cars	$40M - $65M	$60M – $95M	$65M – $105M
BONDING CAPACITY	$200M - $230M	$360M - $410M	$440M - $500M
FUNDING GAP Tolled portion funding gap ***Bold Italics = total project funding gap***	$1.291B - $1.433B ***$1.709B - $1.882B***	$1.398B - $1.592B ***$1.697B - $1.915B***	$1.546B - $1.759B ***$1.828B - $2.062B***

Menu of Funding and Financing Options

The following table represents a number of options for funding and financing the Route 53/120 project. All options shown in the menu are based on the hybrid roadway scenario (Alignment 2: Western Bypass). Using these funding and financing options could have a greater or lesser impact when applied to roadway Alignments 1 and 3.

Menu of Options		Cost	Gross Revenue	Bonding Capacity (Rate and term shown to left)
1	**Value Capture: Special Service Area (SSA)** 2020$. Assumes SSA tax rate of 0.50%. Shows original and expanded VC area. Expanded area applies a lower tax rate of 0.21% in Cook County. Ranges reflect standard bonding and TIFIA bonding.		--	W/O Existing Residential Smaller VC Area = $20M - $66M Expanded VC Area = $69M to $176M
2	**Value Capture: Tax Increment Finance (TIF) District** 2020$. Assumes 50% diversion to underlying districts. Shows original and expanded VC area. Ranges reflect standard bonding and TIFIA bonding.		--	W/O Existing Residential Smaller VC Area = $35M - $269M Expanded VC Area = $193M - $626M
3A	**0.25% Lake County Sales Tax** All bonding capacity assumes 2020$. Ranges reflect standard Lake County bonding (20 year) and TIFIA bonding.		$24M - $30M	$192M - $287M
3B	**0.50% Lake County Sales Tax** All bonding capacity assumes 2020$. Ranges reflect standard Lake County bonding (20 year) and TIFIA bonding.		$49M - $60M	$384M - $573M
4	**Lake County Motor Fuels Tax (Four-Cents)** All bonding capacity assumes 2020$. Ranges reflect standard Lake County bonding and TIFIA bonding.		--	18 MPG = $116M - $184M 35.5 MPG = $59M - $93M 54.5 MPG = $38M - $61M
5	**Congestion Pricing** Additional annual gross revenue shown. Bonding capacity assumes 6% rate and 25-35 year term.	**N/A**	$10M - $20M	$115 - $135M (1.5X Coverage)
6	**Increase Toll Revenue through Indexing** Apply 2% annual increase to passenger cars: .20 in 2025, .26 in 2040. Assumes 6% rate and 25-35 year term	**N/A**	$0M - $15+M	$58M - $93M (1.5X Coverage) $44M - $70M (2X Coverage)
7	**Use Inside Shoulder as 3rd Lane on Rt. 53 During Peak** Assumes Hybrid Scenario, .20 per passenger car. Additional annual gross revenue shown. Bonding capacity assumes 6% rate and 25-35 year term.	$138M - $201M	$0M - $5M	$8M (1.5X Coverage) $6M (2X Coverage)
8	**Add Lane in each direction (for six lanes) on Rt. 53** Assumes Hybrid Scenario, .20 per passenger car. Additional annual gross revenue shown. Bonding capacity assumes 6% rate and 25-35 year term.	$172M - $266M	$0M - $5M	$17M - $21M (1.5X Coverage) $12M -$16M (2X Coverage)
9A	**Toll Existing 53 – widen and reconstruct** Cost assumes new eight-lane from I-90 to Lake Cook Rd. Additional annual gross revenue shown. Bonding capacity assumes 6% rate and 25-35 year term.	$380M - $418M	$75M - $100M	$483M - $556M (1.5X Coverage) $363M – $417M (2X Coverage)
9B	**Toll Existing 53 – reconstruct only** Cost assumes reconstructed six-lane from I-90 to Lake Cook Rd. Additional annual gross revenue shown. Bonding capacity assumes 6% rate and 25-35 year term.	$280M - $308M	$70M - $95M	$471M - $544M (1.5X Coverage) $353M – $408M (2X Coverage)
10	**Longer Term Borrowing** Increase in bonding capacity by changing to a 35 year term rather than 25 year term. Would require legislative approval	**N/A**		$59M (1.5X Coverage) $43M (2X Coverage)
11	**Lower Cost Borrowing** Shows impact of 1% reduction in interest rate over 25-35 year term using the Hybrid Baseline scenario	**N/A**		$58M - $79M (1.5X Coverage) $44M - $60M (2X Coverage)
12	**Add Toll at IL Route 132 to and from the south** Assumes Hybrid scenario, .95 IPASS and $1.90 rates for passenger cars beginning in 2025. 2040 gross revenue shown. Assumes 6% rate and 25-35 year term	Minimal Cost (gantry only)	$10M - $15M	$80M - $94M (1.5X Coverage) $60M - $71M (2X Coverage)
13A	**IL Route 132 Toll AND Increase Waukegan Toll** Assumes Hybrid scenario, Passenger car rates: .95 IPASS and $1.90 cash at IL 132; $1.75 IPASS and $3.50 cash at Waukegan. Assumes 6% rate and 25-35 year term	Minimal Cost (gantry only)	$30M - $50M	$269M - $317M (1.5X Coverage) $202M – $238M (2X Coverage
13B	**IL 132 & Increased Waukegan + Tolling at Border** Assumes Hybrid scenario. Extends Tollway to state line. Assumes new ramp plazas at Russell Road (state line), IL 173 (Rosecrans) and IL 132 (Grand) with Passenger car rates: .30 IPASS and $.60 cash. Passenger car rates at Waukegan: $1.75 IPASS and $3.50 cash. Assumes 6% rate and 25-35 year term	Minimal Cost	$35M - $55M	$301M - $354M (1.5X Coverage) $226M - $265M (2X Coverage)

Funding Scenarios to Close the Gap

The following table combines menu items shown above, to develop five funding scenarios for closing the gap between project cost and bonding capacity. All funding scenarios are applied to Alignment 2. Using these funding scenarios could have a greater or lesser impact when applied to roadway Scenarios Alignment 1 or 3.

FUNDING SCENARIOS TO CLOSE THE GAP	**Tolled Portion Cost**	**Bonding Capacity** (Assumes 1.5 coverage)	**Tolled Portion Funding Gap**	**Total Project Funding Gap** (Includes additional $299M-$323M for non-tolled portions)	**Result**
Baseline Hybrid Scenario	$1.808B - $1.952B	$360M - $410M	$1.398B - $1.592B	$1.697B - $1.915B	**N/A**
Funding Scenario 1 Alignment 2 plus two additional lanes on Rt. 53	$1.980B - $2.218B	$377M - $431M	$1.549B - $1.841B	$1.848B - $2.164B	**Increases** Gap by ***$151M-$249M***
Funding Scenario 2 Alignment 2 (4 lanes) **plus congestion pricing and indexing**	$1.808B - $1.952B	$498M - 581M	$1.227B - $1.454B	$1.526B - $1.777B	**Reduces** Gap by ***$138 - $171M***
Funding Scenario 3 Alignment 2 (4 lanes) with congestion pricing and indexing, **plus tolling existing Rt. 53**	$2.088B - $2.260B	$969M - $1.125B	$963M - $1.1291B	$1.262B - $1.614B	**Reduces** Gap by ***$301M - $435M***
Funding Scenario 4 Alignment 2 plus congestion pricing, indexing, tolling existing Route 53, **plus tolling 132 increasing Waukegan toll, and adding tolling at border (13B)**	$2.088B - $2.260B	$1.270B - $1.479B	$609M - $990B	$908M - $1.313B	**Reduces** Gap by ***$602M - $789M***

Toll Revenue Estimates

Potential toll revenues for the Route 53/120 project were estimated based on the preferred design characteristics and performance requirements using travel demand models. The modeling was done within the context of GO TO 2040, the Chicago region's long-range transportation and land use plan. The first year of tolling for the project was assumed to be 2025 and a future project year of 2040 was also modeled. Assumed per-mile toll rates for these years are shown in Table 1. Toll rates for passenger cars were set to be comparable to other current start-up projects around the country. Commercial vehicle toll rates were set at projected I-355 extension commercial vehicle toll rates.

Table 1: Assumed Per Mile Toll Rates

Year	***PC***	***Trucks Daytime***			***Trucks Night (10pm-6am)***		
		Small	*Medium*	*Large*	*Small*	*Medium*	*Large*
2025	*$0.20*	*$0.45*	*$0.67*	*$1.20*	*$0.30*	*$0.52*	*$0.90*
2040	*$0.20*	*$0.60*	*$0.91*	*$1.62*	*$0.40*	*$0.71*	*$1.21*

Three Scenarios

Three different base scenarios were modeled: B, Hybrid, and C. All scenarios were assumed to be 4-lane, grade separated, access controlled parkways with a speed limit of 45 miles per hour. The same limits of the Route 53 extension were also assumed for all scenarios but each had different assumptions for Route 120. Scenario B assumed tolling on the shortened Route 120 bypass between existing Route 120 just west of Hainesvile and US-45, the Hybrid Scenario on the Route 120 bypass between Wilson Road and Hunt Club Road, and Scenario C on Route 120 bypass between Fairfield Rd Hunt Club Road as well as Route 120 existing between Hunt Club Road and I-94. Table 2 shows the revenue estimates for all three Scenarios.

Table 2: Gross Revenue Estimates for $0.20 per Mile Passenger Car Tolling

Year	Scenario B ($0.20/mi)			Scenario Hybrid ($0.20/mi)			Scenario C ($0.20/mi)		
	Low	**Mid**	**High**	**Low**	**Mid**	**High**	**Low**	**Mid**	**High**
2025	$ 30	$ 40	$ 45	$ 45	$ 60	$ 70	$ 55	$ 65	$ 80
2030	40	50	60	60	75	90	65	85	100
2035	45	55	70	65	85	100	75	95	115
2040	50	65	75	75	95	115	85	105	130

Additional Variations

Four other variations of the basic assumptions discussed above were modeled. All variations were tested using the hybrid scenario. The first variation assumed the shoulders on the Route

53 extension would be open to traffic and tolled at the rates shown in Table 1 during the peak periods. The second assumed three lanes in both directions on the Route 53 extension for the entire day tolled at the rates in Table 1. Indexing the passenger car toll rates to inflation was the third option tested as shown in Table 3.

Table 3: Assumed Per Mile Toll Rates for Passenger Car Indexing

Route	Year	PC	Trucks Daytime			Trucks Night (10pm-6am)		
		IPASS	**Small**	**Medium**	**Large**	**Small**	**Medium**	**Large**
IL-53/120	2025	$0.200	$0.450	$0.675	$1.200	$0.300	$0.525	$0.900
IL-53/120	2040	$0.269	$0.604	$0.908	$1.616	$0.404	$0.708	$1.212

The fourth variation tested was to phase the implementation of the project. This option assumed that the Lake Cook Road to Midlothian Road segment only will open in 2025. Then the Midlothian to Peterson Road segment will open in 2029, the Peterson Road to the western half of the Route 120 project will open in 2033, and the Peterson Road to the eastern half of the Route 120 project will open in 2037. The estimated revenues for all four variations are given in Table 4.

Table 4: Gross Revenue Estimates for Hybrid Scenario Variations

Year	Peak IL-53 Shoulder			6 Lanes on IL-53			Index PC Toll			Phasing		
	Low	**Mid**	**High**	**Low**	**Mid**	**High**	**Low**	**Mid**	**High**	**Low**	**Mid**	**High**
2025	$ 45	$ 60	$ 70	$ 45	$ 60	$ 70	$ 45	$ 60	$ 70	$ 15	$ 20	$ 20
2030	60	75	90	60	75	90	65	80	95	25	35	40
2035	70	85	105	70	85	105	75	95	110	45	55	65
2040	80	95	115	80	100	115	90	110	130	75	95	115

Congestion Pricing Revenue Estimates

Since congestion was observed in the modeled peak periods for all scenarios, congestion pricing was considered. A passenger car peak period toll rate of around $0.40 per mile in 2025 and $0.50 per mile in 2040 was found to be necessary to manage congestion on the facility. Toll rates for trucks and other commercial vehicles were assumed to not be increased in peak periods. Table 5 shows the toll rates assumed for the congestion pricing estimates and Table 6 shows the revenue estimates for Route 53/120 with these toll rates.

Table 5: Assumed Per Mile Toll Rates for Congestion Pricing

Year	Time Period	PC	Trucks Daytime			Trucks Night (10pm-6am)		
			Small	**Medium**	**Large**	**Small**	**Medium**	**Large**
2025	Peak	$0.40	$0.45	$0.67	$1.20	$0.30	$0.52	$0.90
2025	Off-Peak	$0.20	$0.45	$0.67	$1.20	$0.30	$0.52	$0.90
2040	Peak	$0.50	$0.60	$0.91	$1.62	$0.40	$0.71	$1.21
2040	Off-Peak	$0.20	$0.60	$0.91	$1.62	$0.40	$0.71	$1.21

Table 6: Gross Revenue Estimates for Congestion Pricing

Year	Scenario B Congestion Pricing			Scenario Hybrid Congestion Pricing			Scenario C Congestion Pricing		
	Low	**Mid**	**High**	**Low**	**Mid**	**High**	**Low**	**Mid**	**High**
2025	$ 40	$ 50	$ 60	$ 55	$ 70	$ 85	$ 65	$ 80	$ 95
2030	50	60	75	70	90	110	80	105	125
2035	55	70	85	80	105	125	95	115	140
2040	65	80	100	95	115	140	105	135	160

Funding Obtainable from the Existing Toll System

Some specific options for obtaining additional funding for the project from other parts of the Chicago area highway system were considered. The first was to toll existing Route 53 from I-90 to Lake Cook Road. Two different toll rate schedules were considered. One was to toll existing Route 53 at rates similar to the rest of the Illinois Tollway system and the second was to toll at the same rates as assumed for the Route 53/120 project (shown in Table 1). The first toll rate schedule tested was found to not generate a significant amount of revenue beyond anticipated costs of having the Illinois Tollway operate and maintain the road (a 2025 low, mid, high gross revenue of $20, $25, and $30 million, respectively, and a 2040 of $25, $30, and $40). Revenue estimates for the second toll rate schedule tested are listed in Table 9.

Two other options for additional toll revenue from the Tri-State Tollway were considered. The first involved adding a toll on the ramps to and from the south at IL-132 (Grand Ave). These ramps are currently untolled which allows free trips to be made between this interchange and the IL-21 interchange (the next interchange south of IL-132 on the Tri-State Tollway). Additionally it allows traffic to bypass the Waukegan Mainline Plaza and not pay any toll by taking US-41 after exiting or before entering at the IL-132 interchange. This diversion can normally be made at a relatively small loss in travel time and can be an option for vehicles traveling to or from Wisconsin. The assumed toll rates at IL-132 ramps to and from the south to close this hole in the Illinois Tollway system are shown in Table 7.

Table 7: Toll Rates Assumed for Tolling IL-132

Location	Year	PC		Trucks Daytime			Trucks Night (10pm-6am)		
		IPASS	**Cash**	**Small**	**Medium**	**Large**	**Small**	**Medium**	**Large**
IL-132	2025	$0.95	$1.90	$3.55	$5.35	$9.35	$2.35	$4.10	$7.05
IL-132	2040	$0.95	$1.90	$4.80	$7.20	$12.60	$3.15	$5.55	$9.45

Another option for additional toll revenue was to consider raising the toll on the Tri-State Tollway to help pay for the Route 53/120 project. This was tested by analyzing a 25 percent toll increase for all vehicles at the Waukegan Mainline Plaza. The new toll at Route 132 was considered in addition to the Waukegan Plaza increase for this option. Assumed toll rates are shown in Table 8. Revenue estimates for both options for additional toll revenue from the Tri-State are given in Table 9. Note that the Waukegan revenue included in the table is only additional revenue due to the increase in toll.

Table 8: Toll Rates Assumed for Increasing Waukegan Toll and Tolling IL-132

Location	Year	PC		Trucks Daytime			Trucks Night (10pm-6am)		
		IPASS	**Cash**	**Small**	**Medium**	**Large**	**Small**	**Medium**	**Large**
Waukegan	2025	$1.75	$3.50	$6.70	$9.95	$17.55	$4.45	$7.75	$13.25
Waukegan	2040	$1.75	$3.50	$9.00	$13.40	$23.65	$6.00	$10.45	$17.80
IL-132	2025	$0.95	$1.90	$3.55	$5.35	$9.35	$2.35	$4.10	$7.05
IL-132	2040	$0.95	$1.90	$4.80	$7.20	$12.60	$3.15	$5.55	$9.45

Table 9: Gross Revenue Estimates for Tolling Other Parts of the Highway System

Year	Toll Existing IL-53 ($0.20/mile)			Add IL-132 Toll (Tri-State)			Increase Waukegan Toll and add IL-132 Toll (Tri-State)		
	Low	**Mid**	**High**	**Low**	**Mid**	**High**	**Low**	**Mid**	**High**
2025	$ 55	$ 70	$ 85	$ 10	$ 10	$ 15	$ 25	$ 30	$ 40
2030	60	80	95	10	10	15	30	35	45
2035	70	85	100	10	15	15	35	40	50
2040	75	95	110	10	15	15	40	50	55

County Funding Options

There are two major potential sources of funding for the Facility from Countywide revenue sources: sales tax and motor fuel tax. The following provides a brief overview of the future revenue potential and bonding capacity from each. Both of these scenarios have been evaluated under Lake County bonding assumptions and using TIFIA bonding assumptions. TIFIA is a federal credit assistance program for transportation projects. It provides below-market interest rates and flexible repayment schedules.

The current base sales tax rate in Lake County is 7%, lower than those in Cook, DuPage, and Kendall, and the same as those in Kane, McHenry, and Will County.

Table 10. Base Sales Tax Rates

County	**Base Sales Tax Rate**
Cook County	8.25%

DuPage County	7.25%
Kane County	7.00%
Kendall County	7.25%
Lake County	7.00%
McHenry County	7.00%
Will County	7.00%

Source: Illinois Department of Revenue, Tax Rate Finder

In Lake County, referenda to impose county sales taxes have been attempted as recently as 2004 (for transportation) and 2008 (for schools); neither was successful. Based on observed general merchandise sales between 2000 and 2010, a local option sales tax for county transportation could have raised some $20 million to $40 million annually at relatively modest rates (0.25% and 0.50%, respectively). The table below shows bondable revenues for the 0.25% and 0.50% sales tax rates applied to projected taxable sales from 2020 to 2040.

Table 11. Sales Tax and Bonding Capacity

Sales Tax Rate	Average Annual Revenue	Bonding Capacity (2020$)	Bonding Capacity Using TIFIA Interest Rates (2020$)
0.25%	$24M - $30M	$192M - $226M	$215M - $287M
0.50%	$49M - $60M	$384M - $452M	$430M to $573M

Source: CMAP Analysis of Illinois Department of Revenue and U.S. Bureau of Labor Statistics data. Lake County bonding assumptions of a 5.5% interest rate, 20-year term, and 1.35 debt service coverage ratio were utilized. Bond issuance is assumed to occur in 2020. 2010 receipts were inflated to 2020 utilizing the 2000 to 2010 compound annual growth rate in CPI for the Chicago-Gary-Kenosha CMSA. TIFIA interest rates are tied to 35-year treasury rates. The current rate and 52-week high rate were used to bracket capacity.

Creation of a county option motor fuel tax (MFT) is a second funding option for the Facility. Currently, Cook, DuPage, Kane, and McHenry Counties levy local motor fuel taxes. Cook County levies its $0.06 MFT under its home rule powers, while the other counties are authorized to levy their $0.04 MFTs under 55 ILCS 5/5-1035.1, the County Motor Fuel Tax Law. Extending this authority to Lake County would require a change in the statute.[1] DuPage County raises some $20 million annually through its MFT, which compares to $9 million in Kane County and $4.5 million in McHenry County. These amounts correspond to population and vehicle-miles traveled (VMT) levels across the three counties.

A four-cent county motor fuel tax in Lake County could generate a projected $5 million to $16 million annually during the period 2020-2040 across three different fuel efficiency scenarios. The

[1] Note that several municipalities in Illinois levy local motor fuels taxes, including Chicago. None of these municipalities is located in Lake, Kane, or McHenry Counties. These levies range from $0.01 to $0.05 per gallon.

first scenario assumes a fuel efficiency of 18 miles per gallon (MPG), an estimate of the current fuel economy in DuPage, Kane, and McHenry Counties. The second and third scenarios are based on national fuel economy standards, which would raise fuel efficiency for cars and lights trucks to 35.5 MPG for model years 2012-2016 and 54.5 MPG by model year 2025. The revenue estimates assume no sensitivity to higher gas taxes by consumers, given the relatively small increase in per-gallon fuel costs.

Table 12. Fuel Efficiency and Bonding Capacity

Assumed MPG	Bonding Capacity of a Four-Cent MFT (2020$)	Bonding Capacity Using TIFIA Interest Rates (2020$)
18 MPG	$116M - $152M	$125M - $184M
35.5 MPG	$59M - $77M	$63M - $93M
54.5 MPG	$38M - $50M	$41M - $61M

Source: CMAP Analysis of Illinois Travel Statistics 2010 (IDOT) data and CMAP regional travel model. Growth in VMT was evenly distributed between 2010 and 2040 and then extended to 2049. Current-dollar (2010) receipts were inflated to 2020 utilizing the 2000 to 2010 compound annual growth rate in CPI for the Chicago-Gary-Kenosha CMSA. Lake County bonding assumptions include a 5.5% interest rate, 20-year term, and 1.35 debt service coverage. Bonds are assumed to be issued in 2020. TIFIA interest rates are tied to 35-year treasury rates. The current rate and 52-week high rate were used to bracket capacity.

Two structural issues undermine the long-term effectiveness of the motor fuel tax. First, improving fuel efficiency reduces fuel consumption over time, and by extension motor fuel tax revenues. Second, the federal and state motor fuel taxes are not indexed to inflation, and so do not keep pace with rising construction costs. GO TO 2040 recommends bolstering motor fuel taxes in the short term and replacing them with other sources, like VMT fees, over the long term.

Local Funding Options

Value Capture

In a limited transportation funding environment, value capture offers one option for providing local contributions toward the cost of a new facility. Proximate property owners benefit from the construction of a new infrastructure through increased rents, sales, and land values. Under value capture mechanisms, some portion of these benefits is then utilized to contribute to the cost of construction. In Illinois, value capture can be accomplished through several existing mechanisms: Special Service Areas (SSAs), TIF districts, and Business Districts (BDs).

A Special Service Area is a type of special assessment district and allows for levying of an additional property tax on area to pay for added services and infrastructure.

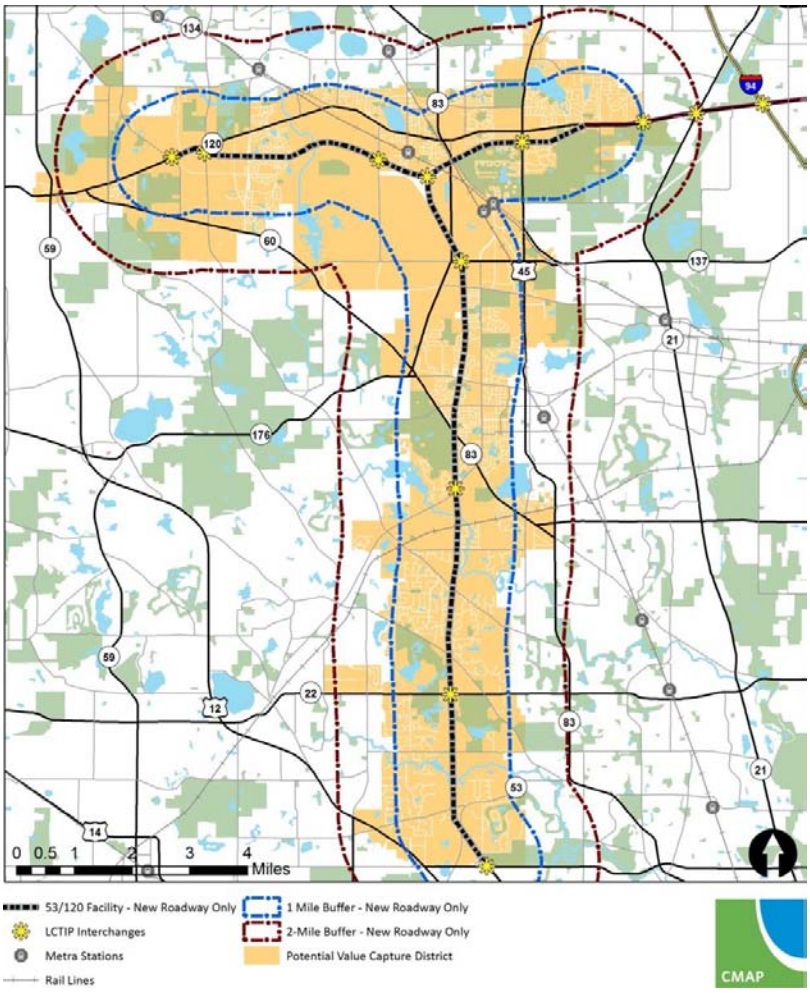
TIFs divert increases in property tax revenues above a defined base to pay for infrastructure or redevelopment.

Business Districts offer the option of creating an additional sales or hotel tax to fund infrastructure improvements and tourism initiatives.

All of these districts require that the funded services or infrastructure provide unique benefits to the district area and, therefore, would be used to pay for only a portion of the cost of a larger facility like a new roadway.

For this analysis, a rough value capture district boundary was defined that included all blocks within 1 mile of the proposed facility and, within two miles of the proposed facility, all largely non-residential blocks fronting arterials with interchange access. It is assumed that, should a value capture district move forward, this boundary will change significantly to reflect policy concerns and better definition of areas that most benefit from the facility.

Figure X. Potential Value Capture District, One and Two Mile Buffers



Bonding capacity was analyzed for TIF and SSA-based value capture districts. The assumed SSA tax rate was 0.50%, based on the existing average in Lake County. TIF bonding revenues assume a diversion of 50% of all TIF revenues to underlying districts.

Table 13. Bonding Scenarios

Bonding Scenario	SSA***		TIF***	
	Tollway Bonding	TIFIA Loan	Tollway Bonding	TIFIA Loan
Excludes existing residential EAV				
Existing EAV Only*	$20M to $21M	$23M to $30M	$35M to $71M	$44M to $111M
New Development EAV + Existing EAV**	$37M to $46M	$44M to $66M	$131M to $179M	$153M to $269M
Includes existing residential EAV				
Existing EAV Only*	$109M to $118M	$129M to $164M	$196M to $391M	$247M to $613M
New Development EAV + Existing EAV**	$148M to $179M	$175M to $258M	$291M to $458M	$355M to $711M

*Existing EAV projections for an SSA assumed no EAV growth. Because a TIF requires EAV growth, a 2.0% to 3.0% annual growth rate of existing EAV was assumed.

** Growth Scenario projections assumed development of approximately 4.2 million square feet of Office, 6.0 million square feet of Industrial, and 2.6 million SF of Retail within the Corridor by 2040.

*** An SSA tax rate of 0.50% has been assumed. TIF bonding estimates assume a diversion of 50% of TIF revenues to underlying jurisdictions. All districts are established in 2018. Tollway bonding term is 25 years and the interest rate is 5.5%. TIFIA bonding term is 25 years and the interest rate ranges from 3.44% to 4.67%.

Sources: CMAP analysis of Lake County Assessor data

Statutory Requirements for Multijurisdictional Value Capture

Value capture in Illinois faces two significant statutory obstacles. The first involves the local nature of the special districts used to generate value capture revenues. TIF and SSA districts may only be created by individual municipalities (counties may create SSAs, but must obtain the consent of underlying municipalities). However, transportation improvements like the proposed Route 53/120 facility cross multiple communities.

For example, twelve municipalities touch the proposed Facility, and twenty are located within two miles of it. Under current statute, each of these municipalities and Lake County would have to create and manage a district of its choosing to provide funding for the proposed Facility.

Alternatively, Lake County could create an SSA with the consent of underlying municipalities. While this has the benefit of allowing local choice in the type of district and funding source used for a local contribution, it creates a cumbersome structure that will be difficult to issue bonds for.

Other states allow the establishment of multi-jurisdictional districts to fund transportation improvements, with the requirement that underlying jurisdictions and/or affected taxpayers formally consent to the creation of the district. A similar district type focused on transportation improvements may be desirable in Illinois.

Additionally, establishment of a TIF or Business district requires a finding of blight. While some areas of the corridor are likely to meet some of the blight criteria, most are not. In 2011, an amendment was proposed to the Illinois TIF statute that would have allowed TIFs to be established in areas where transit-oriented development is needed and to fund TOD improvement costs. However, the initiative stalled due to concerns about broadening the scope of TIF. Other states have created TIF-like mechanisms to fund transportation improvements, with limitations on funding uses and/or amounts that address concerns about the scope of TIF.

Finally, the 23-year statutory lifespan of Illinois TIF districts can pose a problem for obtaining bond financing for transportation projects because it is shorter than the length of the 25 to 35 year bonding terms generally used for major infrastructure. Additionally, a TIF must be established for several years and have a stable revenue stream in order for bonds to be issued on that revenue. While Illinois statute currently allows the legislature to extend the lifetime of specific TIFs up to 35 years, an automatic lifespan longer than 23 years would be required for a transportation-focused TIF to allow time for establishment of the revenue stream and bond repayment.

Long-Term Funding for Stewardship and Monitoring

Perpetual stewardship and monitoring, and the assurances required for land protection and restoration will be put in place to successfully accomplish the vision and performance requirement of this program over the long term.

The program will establish funding mechanisms and funds for meeting all obligations to achieve the environmental performance outcomes addressed in this document. In addition, perpetual funding for the maintenance, monitoring and stewardship of the protected, restored and enhanced lands including those within the right of way and within external stormwater management areas, and in the restoration and management treatment areas that have been identified during preliminary assessment and those that will be identified as part of the Lands Inventory. A preliminary estimate cost for long-term stewardship and monitoring is $81,251,000 million. This figure will be updated as the project design, impacts and needs are refined.

Building on Illinois Tollway partnerships with forest preserve districts, the Department of Natural Resources, the Nature Conservancy, and other conservation partners, this project will establish appropriate funding protocols for long term maintenance and stewardship of the affected programs and restoration areas. The actual legal funding structures may include some combination of the following:

- Sureties for performance
- Establish a conservation endowment or trust fund
- Right of way working lands maintenance funding

5. Create a Corridor Plan and Implementation Strategy

Planning for Land Use, Transportation and Open Space

The Council recommends a coordinated corridor plan be developed that integrates land use, transportation, economic development, and open space. This corridor plan should be consistent with the Guiding Principles and all other recommendations in the Council's Resolution.

A corridor planning effort should accomplish the following:

- Develop the corridor plan using a market-based feasibility approach, targeting both the likely economic development, and the housing mix that will be most likely based of future markets.
- Develop an economic development strategy and detailed market analysis to ensure the best possible economic future, including not only the land and building types desired by targeted industries, but the ancillary uses, infrastructure, and elements such as workforce training that also attract business.
- Develop mixed-use, pedestrian-friendly land uses where feasible that have the potential to lower congestion, air pollution, vehicle miles traveled, and greenhouse gas emissions.
- Design the land use and transportation system to make transit, walking and biking more feasible, and to increase local connectivity and plan for the increased local road traffic that will likely follow completion of the road and associated new development.
- Develop an integrated open space system that not only includes the protection and restoration of conservation lands, but also meet the needs for recreation and other open space needs of residents and workers in the corridor.

This recommendation addresses the following Guiding Principles:

- Enhance mobility and accessibility, and relieve congestion, in the Central Lake County Corridor.
- Minimize environmental and long term development impacts of transportation infrastructure and operations.
- Promote environmental enhancements and sustainable practices in all aspects of project development, implementation and operations, and strive to improve the overall environment.
- Promote diversity in all aspects of project development, implementation and operations.
- Develop and apply innovations in all aspects of the project to create a 21st Century modern boulevard that serves as a national and international model.
- Cooperate with agencies and municipalities to deliver the Council's work in a transparent and accountable manner.

Why Is a Coordinated Plan So Important?

In addition to making corridor improvements that facilite mobility, multi-billion dollar road infrastructure improvements will have significant secondary effects on the nearby communities of central Lake County. On the positive side, the improved access brought by the road will stimulate economic and residential development. On the adverse side, new roads can stimulate rapid and unplanned development, traffic can increase dramatically on existing roads that are ill-prepared, and sensitive ecological areas can be irreparably damaged. Coordinated planning efforts can ensure that adverse side affects are dramatically limited.

Planning for Market-Feasible Development

CMAP's analysis of current local plans indicates that the area is envisioned to develop into retail, office and industrial environments, and residential uses that are primarily single-family homes. However, these plans were developed independently, without coordination among jurisdictions and without the benefits of a comprehensive market study. If the anticipated capacity for commercial development, particularly retail and office development, is totaled for each plan, the sum is far greater than what could reasonably be developed within the corridor at typical densities.

Managing Development Patterns

The Council intends for the facility to be a modern 21st Century parkway, encouraging multi-modal transportation, and preserving important environmental and community assets. This is in contrast to the development patterns, both existing and planned for the area, which are more typical of the late 20th century, and where low-density developments of separated, single-use districts are dominated by auto-centric design and form. Choices about the character of future development along the corridor can foster a more vibrant, mixed-use, and livable community for the 21st century.

Cooperative Implementation

The corridor has a complex governmental structure, with 20 municipalities and unincorporated Lake County areas within the two-mile corridor that would be affected by the new facility. Because of this, participation from local governments and central Lake County community members is critical. Local decision makers will be at the forefront of implementation, and public support gained through dialogue and public contributions will bolster successes. Developing solutions to the land use challenges that a new road brings will require a cooperative corridor plan that develops an integrated solution that these local governments can and want to implement.

Coordinated land use planning along the length of the proposed corridor is necessary to align future growth with community goals and provide a future that residents of Lake County desire. The corridor plan should include stakeholder outreach and involvement to help develop implementation concepts, focusing on cooperative implementation at the local level. The outcome of intergovernmental coordination and joint planning will result in a cooperative vision document with local community support.

Next Steps

Initiate the Corridor Plan

The Council recommends that the project is fully scoped, and that as soon as possible a commitment is obtained local municipalities, Lake County, and CMAP to move forward. Additionally, a final alignment should be determined and funding must be developed for the planning process.

In order to make the corridor study official, a memorandum of understanding setting up the study management structure and scope should be developed among the entities including the municipalities, Lake County, the Tollway, and other key stakeholders, which should be approved within several months of the release of the Council's Resolution. In addition, Lake County, on behalf of the municipalities, and with the cooperation of the Tollway is encouraged to send CMAP an expression of interest for assistance through the Local Technical Assistance program (LTA). The LTA will not be a sufficient source of resources but it would provide a beginning point and complement other sources of funding. The remainder of the funding would need to be secured as soon as possible for the work to begin.

Secure Funding to Close the Gap

The Council agrees that the project should be funded through the use of tolling, under a rate structure that includes congestion pricing and indexing of toll rates. The Council understands that other revenue options including local sources will be necessary to fund the project, and recommends a detailed plan be developed in coordination with local governments. The Council supports tolling existing Route 53 from Lake Cook Road to I-90 and a cooperative approach to develop a tolling plan that is equitable and uniform for all access points in Lake County; including adding tolls to existing un-tolled access points, adding tolls at the state border and adjusting the rates at the mainline Waukegan Plaza on the Tri-State Tollway. The Council also requires identification of local revenue sources, and supports the use of Tollway system generated revenues to enable this project and others vital to the region's mobility, economic development and quality of life.

Develop a Detailed Design Concept

The Council concludes that the project has sufficient technical merit and financial feasibility to develop a more detailed design concept. This concept will reflect all of the roadway design and key features, and all of the performance requirements, outlined in this Resolution. Therefore, the concept will be developed in sufficient detail to fully understand the environmental, community and transportation impacts of construction, and to fully understand the capital and operating costs, and appropriate funding plan, for further consideration by the Council. This design intent document will include a plan view with pavement edge, sidewalks, trails, overpasses, underpasses, vegetation, landscaping and preservation elements. A perspective sketch of each interchange and overpass should be included to illustrate placement and character of the facility and right-of-way.

The design concept should also consider all potential trade-offs associated with modifying the project design in order to find the appropriate cost-benefit balance.

Continued Council Member Involvement

Any steps forward with the proposed Illinois Route 53/120 project will involve the local communities of central Lake County as partners. The project shall engage the public and stakeholders at each stage, and opportunities for input and involvement will be tailored to the project stage and level of activity. Members of the Blue Ribbon Advisory Council will be kept informed of all activities and encouraged to remain involved. Should the project proceed to the point of construction, the Illinois Tollway will convene a Local Advisory Committee in accordance with the Toll Highway Act, where current members of the Council would be excellent candidates for the new advisory body.

Secure State Legislature Authorization

In order to proceed to the final stages of planning, design and construction for Route 53/120 a series of local, state and federal authorizations may need to be pursued including, but not limited to:

- Illinois General Assembly authorization to give the Tollway direction to build the roadway to the specified project limits, which may include portions of the existing Route 53
- Federal authorization to allow tolls to be added to existing federally funded roadways
- Authorization for final transit recommendations
- Changes to allow an extended borrowing term up to 35-years
- Transfer of and land, rights or other property held by the State of Illinois for the purpose of constructing and operating this project
- Legislation to support final local funding programs such as Value Capture, TIF Districts, Special Service Areas, etc.
- Countywide referenda or other authority to support final funding recommendations

Summary Report: The Council's Background Work

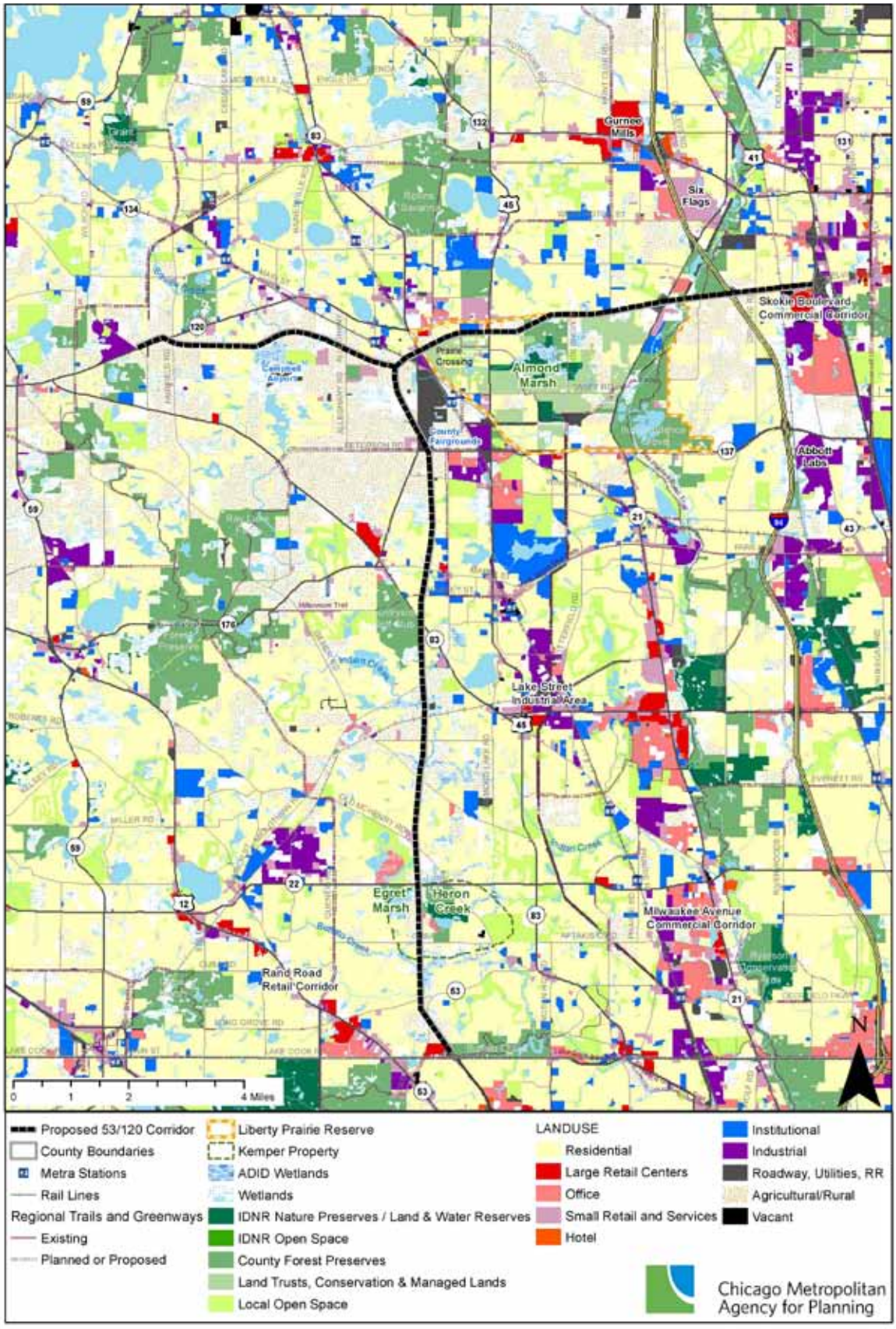
Context for a New Road in Lake County

Community Context for Lake County

Current Development Patterns

Land use in central Lake County is characterized by low-density development, both rural and suburban. Within two miles of the proposed facility, over 50 percent of the land is agricultural, open space, open water, or vacant; over 36 percent is residential, and of that nearly all is developed as single-family homes and townhomes (89 percent).

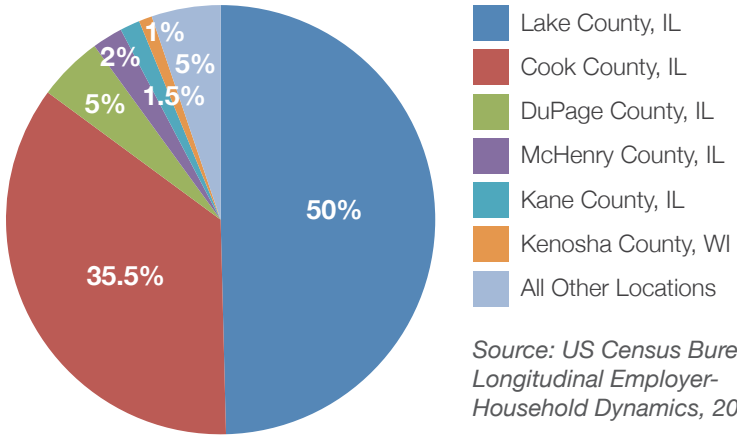
Existing Land Use and Environmental Features for the Proposed Lake County Corridor



Commuting Patterns

While the largest employment clusters are located in the southeast and east-central sections of the county, residential development has occurred farther west and north, especially along the Route 120 corridor. This mismatch between "home" and "work" for many residents of Lake County means more driving.

Table X. Where do Lake County Residents Work?



Source: US Census Bureau. Longitudinal Employer-Household Dynamics, 2009.

Nearly half of the residents of Lake County also work in the county, meaning many work trips may be entirely reliant on local roads.

Conservation Lands

Lake County is known for its conservation ethic, and with good reason. The county is home to more threatened and endangered species than any other county in Illinois.[1] Within two miles of the proposed Route 53/120 corridor, there are many species recognized as threatened or endangered. Protected lands within the corridor area total over 8,100 acres, including Illinois Nature Preserves, municipal parks and open space, township holdings, Lake County Forest Preserves, and conservation easements. Additionally, there are four important bird areas, totaling over 2,200 acres, and 14 Illinois Natural Areas inventory sites of nearly 1,700 total acres.

Almond Marsh in Lake County Illinois Nature Preserve is a wetlands and wildlife bird sanctuary and Great Blue Heron Rookery.

[1] Lake County Forest Preserves. www.lcfpd.org/conservation.

Planning for Future Growth

The proposed Route 53/120 project has been under evaluation since the 1960s. In recent years, many municipalities within the vicinity have incorporated the facility, particularly the Route 120 improvements and proposed bypass, when updating municipal plans. Independently, these jurisdictions have planned for significant increases in commercial, retail, office and industrial development along the corridor. Taken together, the planned employment capacity far exceeds the forecast for growth in the central Lake County area.

- At typical development densities, build out of planned new retail areas within the corridor would more than double the existing retail square footage in all of Lake County.
- Proposed new office development within the corridor would increase office square footage in the entire county between 40 percent and 75 percent.
- More acreage has been allocated to industrial than office, but the existing industrial base in Lake County and the low average density of industrial development means that proposed industrial land uses would only increase approximately 25 percent over existing industrial square footage.
- Housing units and population near the corridor would increase at a significantly lesser rate of four to six percent, in part due to the large-lot zoning in many communities near the corridor.

Table X. Future Land Use Change within Two Miles of the Proposed Route 53/120 Corridor

	Future Added Acres		Estimate Development	
Future Land Use Change	*from***	*to***	*from***	*to***
Residential	5,200	6,510	8,220 Units	12,450 Units
Retail/Commercial	2,420	3,050	31,210,000 Sq Ft	38,300,000 Sq Ft
Open Space	1,720	1,420	1,720 Acres	1,420 Acres
Industrial	1,670	2,360	19,700,000 Sq Ft	21,920,000 Sq Ft
Office	840	1,350	14,510,000 Sq Ft	26,340,000 Sq Ft
Mixed Use *	120	120	1,190 Units 1,350,000 Sq Ft	1,190 Units 1,350,000 Sq Ft
Government & Institutional	90	130	No Data	No Data
Utility/Waste Facilities	20	20	No Data	No Data
Agricultural Land***	2,890	N/A	N/A	N/A

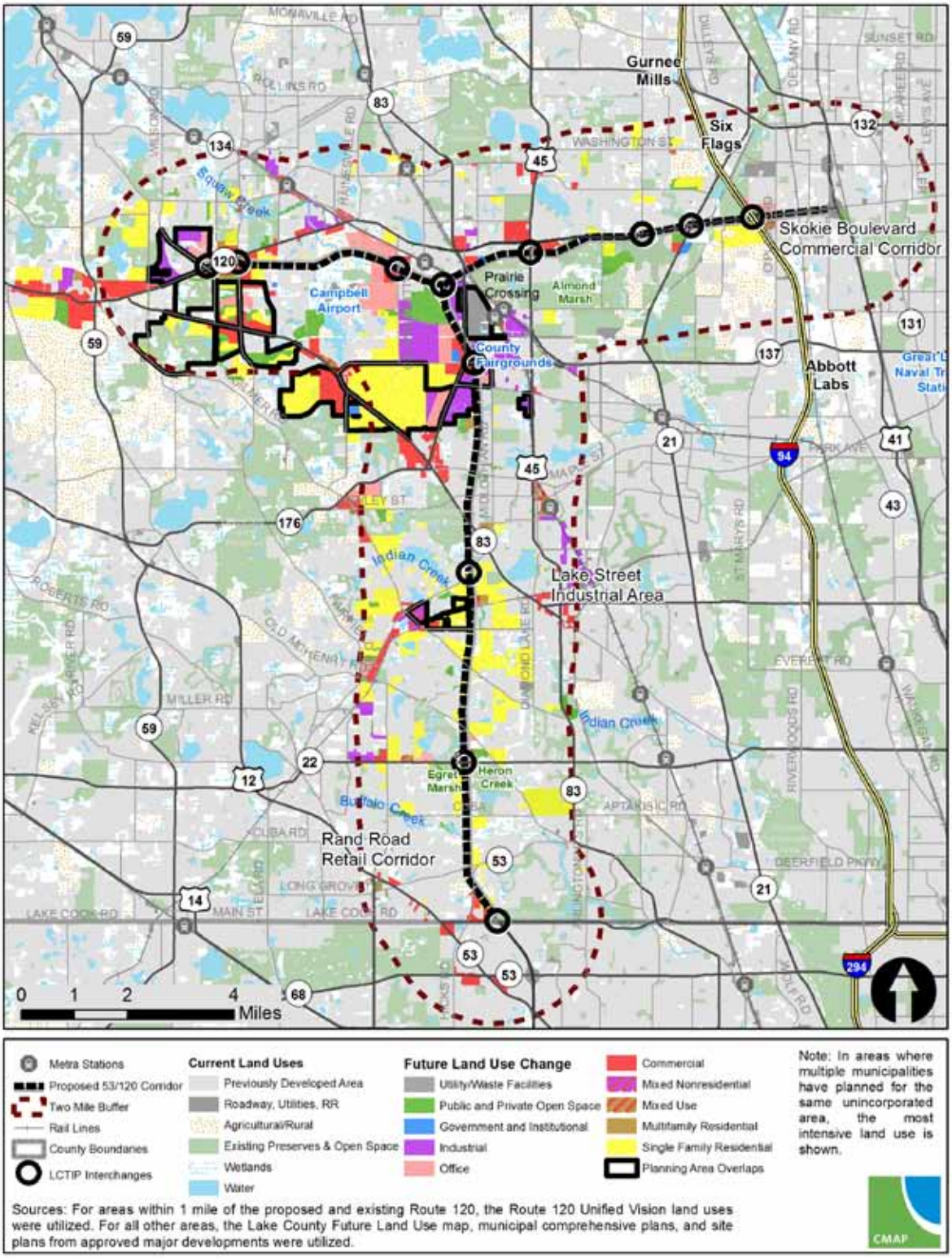
Sources: CMAP analysis of CoStar Data, municipal and county Comprehensive Plans and approved major developments.

* Mixed use refers to downtown or transit-oriented developments. Mixed Use Housing Unit and Retail/Commercial SF totals are not included in the Residential and Retail/Commercial SF totals in Figure 1. All areas proposed for future mixed use had no other proposed land uses, so there is no difference between the scenarios.

** The "From" and "To" scenarios represent the sum of acreage and estimated square footage when the least and most intensive proposed land uses are chosen for all areas. Multiple proposed land uses occurred only in unincorporated areas where the planning areas of two or more municipalities overlapped.

*** Agricultural land does not represent a new or added land use, but instead is a total of existing agricultural acres that are not converted to developed acres in the most intensive scenario.

Figure X. Proposed Land Use Changes in the Central Lake County Corridor



Given current development patterns and constraints, it is unlikely that all of the area designated for retail in the comprehensive plans will be developed, but it is important to consider the direction planned for the corridor is quite different from existing patterns.

Planning for the 53/120 facility offers the opportunity to review land use plans across multiple municipalities and create a collaborative process where individual communities work together to direct development to some areas, preserve open space in other areas, and share potential fiscal and economic benefits. Without a coordinated approach, development will occur in a disjointed pattern across multiple communities on the corridor, presenting the potential to negatively impact the goals of preserving community character and conserving natural and agricultural areas. Additionally, this kind of scattered development can lead to increased auto trips, total vehicle miles traveled, and congestion.

Transportation Context for Lake County

Longstanding Transportation Needs

Given the project's nearly 50-year history, a mobility need in central Lake County has been identified for some time. Significant congestion currently exists on the arterials in the study corridor, especially in the eastbound and southbound directions in the morning peak and in the westbound and northbound directions in the evening peak. Recent population and employment growth trends have added to the travel demands, with the greatest population growth occurring at the northern part of the project area and the greatest employment growth occurring on the southern part. One focus point of the council's discussions is a large bottleneck that occurs at the current terminus of Route 53 at Lake Cook Road at the southern edge of Lake County. Illinois Department of Transportation traffic data show a total of around 100,000 vehicles a day either enter onto Lake Cook Road from northbound Route 53 or enter onto southbound Route 53 from Lake Cook Road at this location. This is one example of many locations that would be expected to experience significant travel improvement with the addition of the new facility.

Travel demand modeling was performed by project staff to estimate the current and predict the future vehicular transportation conditions in Lake County. The modeling for future years was done within the context of GO TO 2040, the Chicago region's long-range transportation plan. The model predicted over a 30 percent increase in the number of miles traveled and over a 40 percent increase in the time spent traveling in Lake County between 2010 and 2040. Time spent traveling in congested conditions in Lake County was predicted to double by 2040 to total over 130,000 hours a day without the Route 53/120 project. With the project, the 2040 conditions improved significantly with the model estimating countywide time in congestion reduced about 23 percent compared to base 2040 conditions.

Environmental Context for Lake County

The parts of the right of way that have been acquired by the state are mostly old farm fields that are now managed by periodic mowing. Wetlands are frequently encountered, although it is likely that some of the wetlands can be avoided by varying the placement of the road within the right of way. The corridor intersects six so-called ADID wetlands with “exceptionally high functional value,” meaning that they provide stormwater storage, harbor rare species, or meet other criteria. In many cases, however, the wetlands in and around the right of way have been degraded and are also in poor ecological condition. At the same time a number of wetland complexes along the right of way, such as the marsh by Surrey Lane along Buffalo Creek and the marsh associated with Indian Creek, appear to be good candidates for ecological restoration.

The Liberty Prairie Reserve

The eastern portion of the Route 120 bypass lies immediately north of an extremely important complex of natural areas, the Liberty Prairie Reserve. This 3,300-acre complex of protected state, county, township, and private lands is within a 5,800-acre planning area with more opportunities for land protection. Several Illinois Nature Preserves are within the Reserve. Prairie Crossing, a well-known and highly regarded conservation subdivision, is on the western edge of the Reserve.

Forest Preserve District of Lake County

The Route 53/120 corridor traverses through the center of Lake County and along the borders of several parcels owned and managed by the Forest Preserve District. The District is home to Nature Preserves, endangered species, high quality wetlands and other sensitive habitats. Land preservation has been a priority for Lake County residents and land acquisitions have mirrored these values. The District also provides numerous recreational opportunities including recreational trails, bird watching, fishing, playgrounds, and golf. Current land holdings include but are not limited to the Heron Creek and Egret Marsh Forest Preserves, Almond Marsh, and other important natural resource locations.

The Landscape of Lake County

The landscape in central Lake County is a product of glaciation. The corridor lies mostly on the Valparaiso Moraine, crossing the Tinley Moraine only on the east end of Route 120. The topography is usually flat or gently rolling, although on the western end the Route 120 bypass runs through a low-lying floodplain area. Many kettlehole lakes are present and soils are generally poorly drained. Historically land cover was mostly oak savannah and prairie with wetlands in low-lying areas. As a result of filling and draining, total wetland area is much reduced from presettlement times. Oak groves persist in protected conservation areas as well as in other settings, but often they are in poor ecological condition because of the presence of invasive species, fragmentation, and other factors. Prairie is now found only in small protected areas.

Lake County Watersheds

Most of the corridor drains to the Des Plaines River, but the western end of the Route 120 bypass would drain to the Fox. The corridor crosses nine perennial streams. Indian and Buffalo Creeks are the major stream systems on the north-south leg, while the Route 120 bypass would likely cross Mill and Squaw Creeks. None of these streams is especially high quality, but they do have important sections with lower levels of disturbance, and it is critical to minimize water quality impacts from runoff. Indian Creek scored a D for fish diversity on the Illinois DNR Biologically Significant Streams survey, but no other streams were assessed in that effort. Only Buffalo Creek is on the state's list of impaired waters (the "303(d) list"); the other creeks either have been deemed non-impaired or have not been assessed. Impairment to aquatic life in Buffalo Creek is thought to be caused by chloride and total suspended solids as well as unknown causes. It is likely that biological conditions in these creeks could be improved with stream restoration activities.

Financing Context for Lake County

Many financing and funding options for the proposed Route 53/120 corridor were discussed in various levels of detail by the committee, including traditional funding sources, tolls and pricing, innovative financing tools, stakeholder support and participation, and private financing.

Traditional Federal and State Funding

There currently appear to be few opportunities for using traditional funding sources to pay for the Route 53/120 project. At the national level, the potential for a new federal transportation bill has been hotly debated in Congress, and its scale and structure remain uncertain. The backdrop of a growing imbalance between infrastructure needs and financial resources will likely make funding new projects more difficult, and federal transportation funding cannot be relied upon as a funding source. In Illinois, the current fiscal year 2012-2017 Proposed Highway Improvement Program puts the focus on preservation and maintenance of the existing Illinois Department of Transportation system. Funding for the Route 53/120 project is not included in the program. State priorities and funding availability would have to change significantly to allow for funds to be directed to this project.

Using Tolling as a Funding Source

Tolling was assumed to be a funding source for the project. Many different tolling scenarios were discussed and analyzed, including the following:

- Standard tolling at rates comparable to other start-up projects around the country
- Indexing the toll rates to inflation
- Congestion pricing
- Tolling the existing segment of Route 53 between I-90 and Lake Cook Road

All tolling scenarios assumed electronic tolling with no cash collection. Compared to standard tolling, congestion pricing was viewed favorably by the Council as a way to reduce congestion on the facility during peak periods and generate additional revenue.

A scenario for tolling of existing Route 53 using rates consistent with the extension of Route 53 at $0.20/mile and restructuring the roadway for tolling generates additional funding.

One of the other options discussed was the TIFIA program which offers federal credit assistance for eligible projects of national and regional significance. The assistance can take the form of a loan, loan guarantee, or line of credit for up to 33 percent of project costs, all of which can boost cash flow to cover project debt. However this program is highly competitive and has seen overwhelming demand, especially in recent years.

Stakeholder support and participation in the form of value capture, sales tax, and motor fuel tax were also discussed by the Council. The analysis found that all three sources have varying levels of revenue potential but there would be significant legislative, policy, and equity issues with each.

Scenario Planning for the Facility

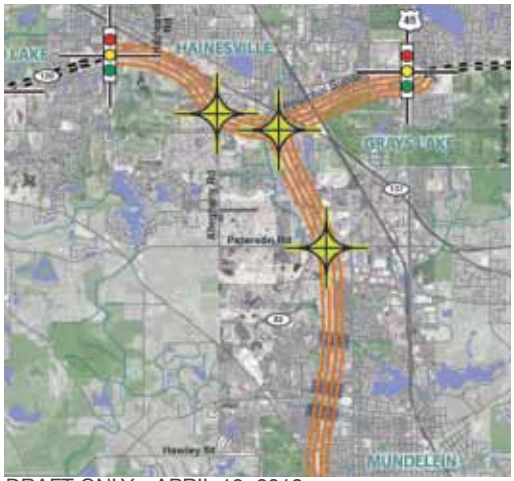
What is Scenario Planning?

Scenario planning is a powerful tool for better understanding the likely costs and benefits of new policy and investment decisions, as well as discovering the long-term impacts of existing plans and trends. Scenario planning works through a process of identifying specific planning issues and then modeling potential solutions into "scenarios" which represent these possible future alternatives. The range of potential solutions can include proposed policy and investment decisions as well as ideas generated from the public, other planning efforts or elsewhere. The scenario planning process uses community goals and guiding principles to help determine a set of evaluation criteria or indicators that measure a scenario's performance. This can include a community's desired outcomes, financial feasibility, or environmental impacts among many other things. By evaluating and comparing scenarios and their outcomes, scenario planning can aid decision-making and help to determine a preferred course of action when there are many possible ways forward.

Scenarios for Route 53 and Route 120

Five scenarios were created during the Route 53/120 project. These scenarios explore options for access, roadway and intersection design, environmental enhancements, and land use policies for adjacent development. The Council used these scenarios and their performance outcomes to better understand the range of solutions for the design of the proposed Route 53/120 facility. The following pages include summaries of each scenario.

Figure X: Example Scenario Map



Scenarios are often illustrated using maps that highlight land use and transportation. Supplemental graphics are also useful in order to visualize a scenario's on-the-ground appearance.

Scenario A

In **Scenario A** Route 53 is a four-lane untolled arterial roadway. Travel speeds are kept low at 35 miles per hour, and travelers may access adjacent roadways at signalized intersections. This option includes a proposed bypass of Grayslake and joins with existing Route 120 to the east of Grayslake and to the west of Hainesville. This option is the most integrated with the existing land uses, is the lowest cost to construct, but provides the lowest amount of congestion relief and no potential for generating toll revenue.

Scenario A: Route 53 Cross-Section

Scenario A: Route 53 Plan View

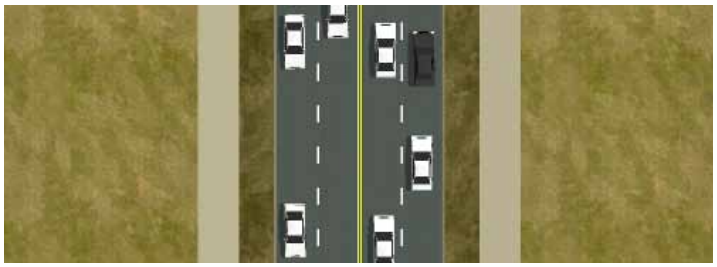
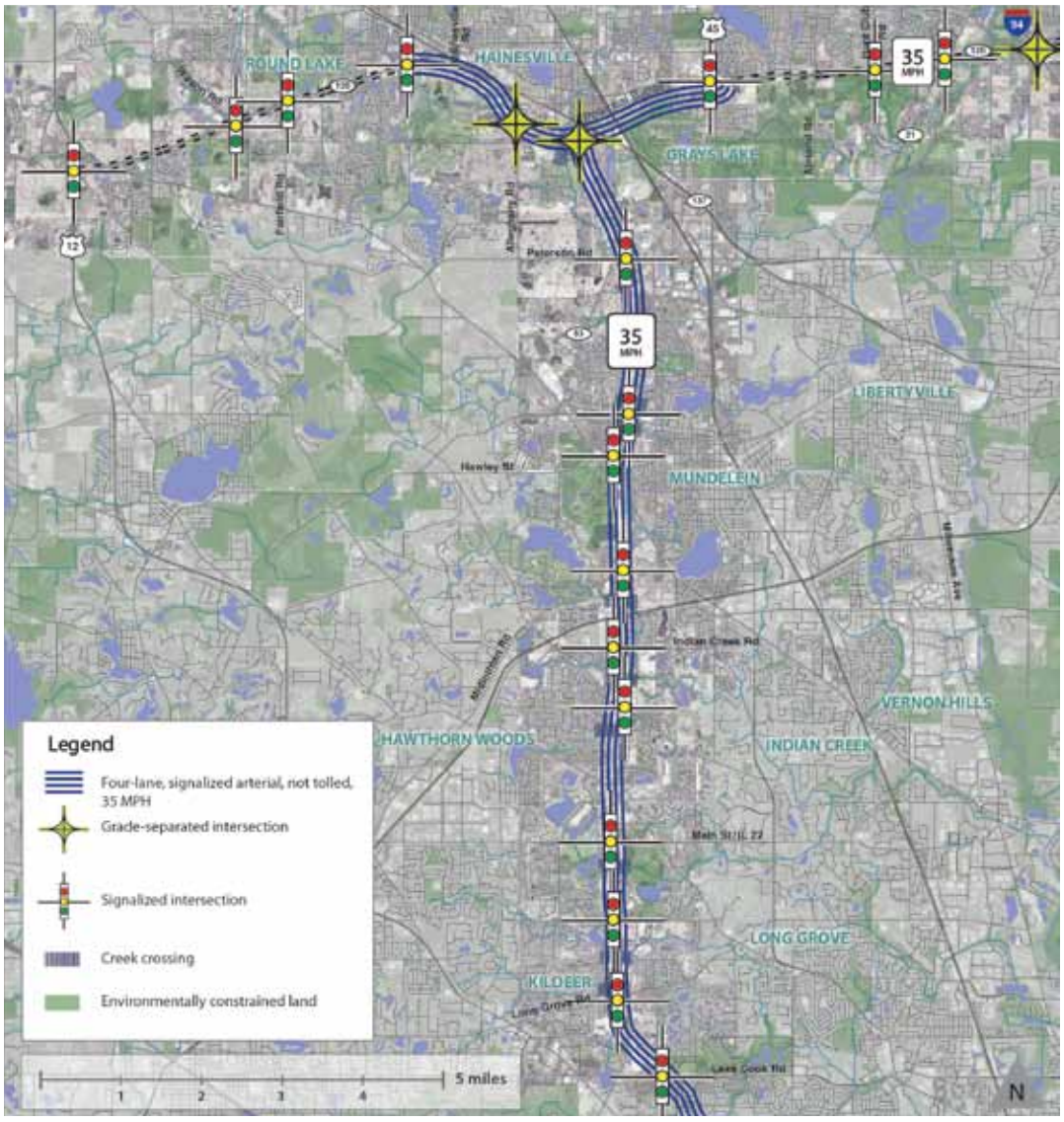


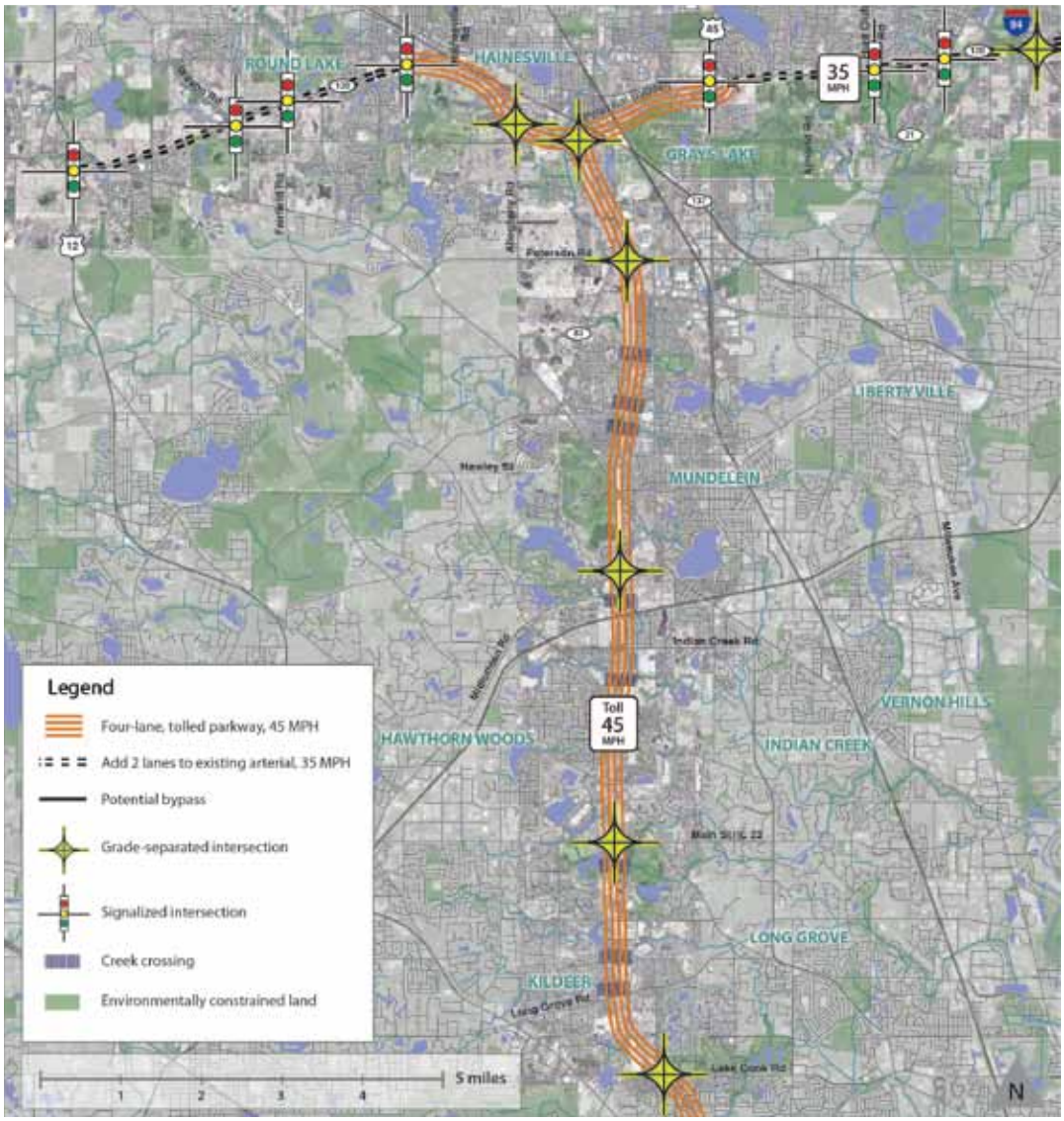
Figure X: Scenario A Map



Scenario A Highlights:

- Lowest environmental disturbance
- Lowest cost to construct
- Lowest amount of new paved roadway surface
- Lowest travel speed
- Lowest reduction in travel congestion
- Most roadway intersections
- Bypass of Grayslake

Figure X: Scenario B Map



Scenario B Highlights:

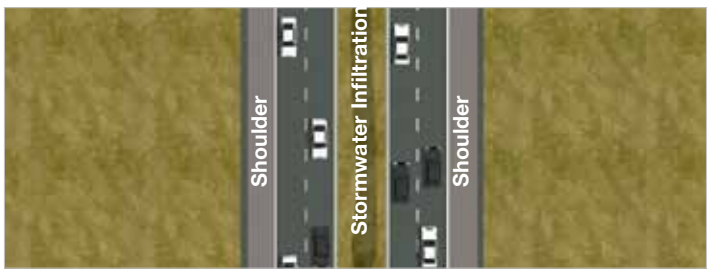
- Low potential environmental impacts
- Moderate amount of new paved roadway surface
- Travel speed of 45 MPH and 35 MPH
- Moderate reduction in travel congestion
- Grade-separated intersections along Route 53 and part of 120
- Bypass of Grayslake
- Widens existing Route 120 east of Grayslake and west of Hainesville

Scenario B

In **Scenario B**, Route 53 is a four lane tolled parkway. Grade-separated intersections allow for controlled access to adjacent roadways. Travel speeds are 45 MPH along all tolled segments of Routes 53 and 120. Un-tolled segments of Route 120 are expanded by two lanes, with signalized intersections and travel speeds of 35 MPH. This option includes a proposed bypass of Grayslake, which joins with existing Route 120 to the east of Grayslake and to the west of Hainesville.

Scenario B: Route 53 Cross-Section

Scenario B: Route 53 Plan View



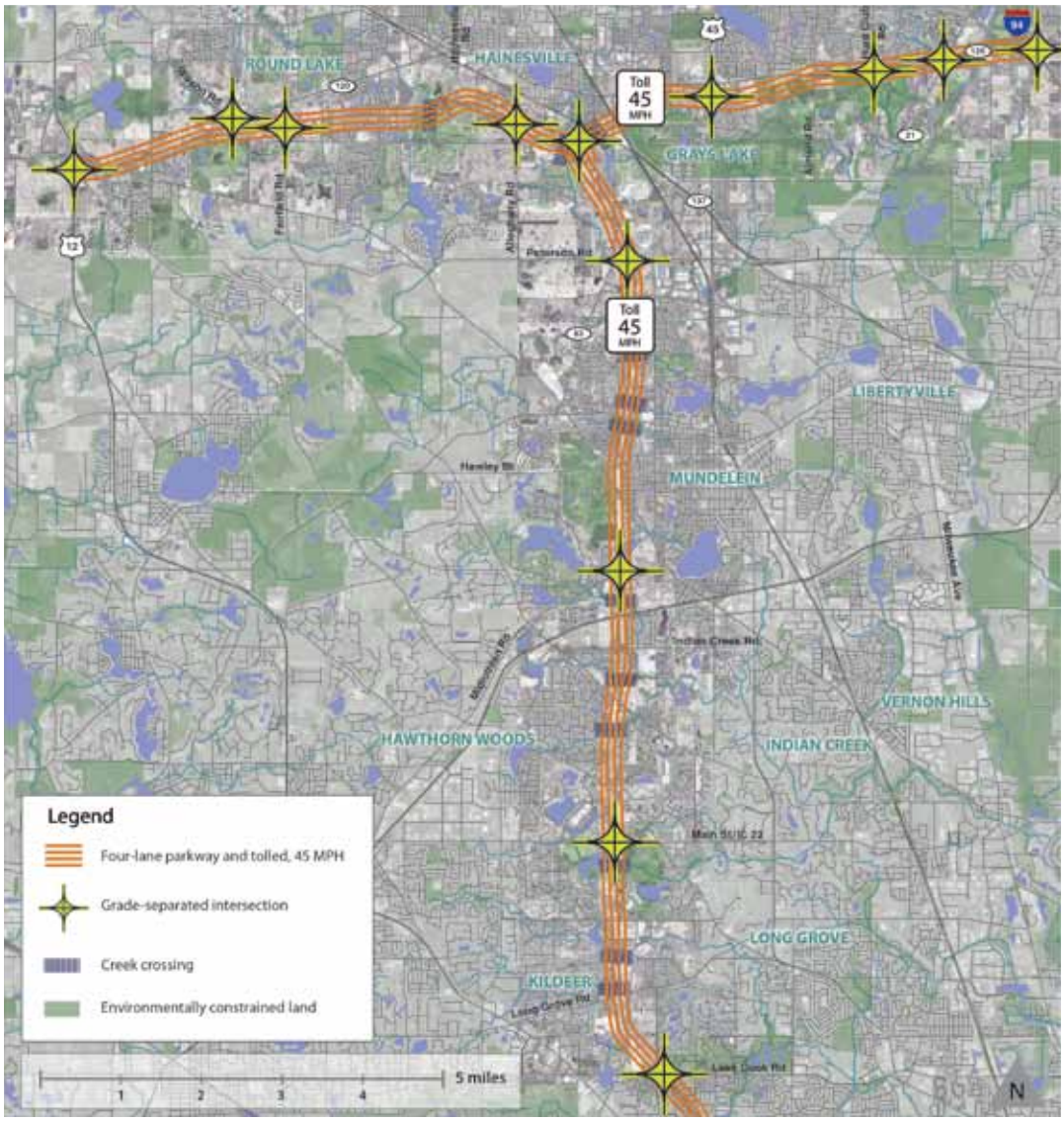
Scenario C

In **Scenario C**, Route 53 and Route 120 are four lane tolled parkways. Grade-separated intersections allow for controlled access to adjacent roadways. Travel speeds are 45 MPH along Routes 53 and 120. The scenario footprint and paved areas created are both slightly lower, compared to scenarios D and E. Potential environmental impacts and congestion relief are moderate.

Scenario C: Route 53 Cross-Section

Scenario C: Route 53 Plan View

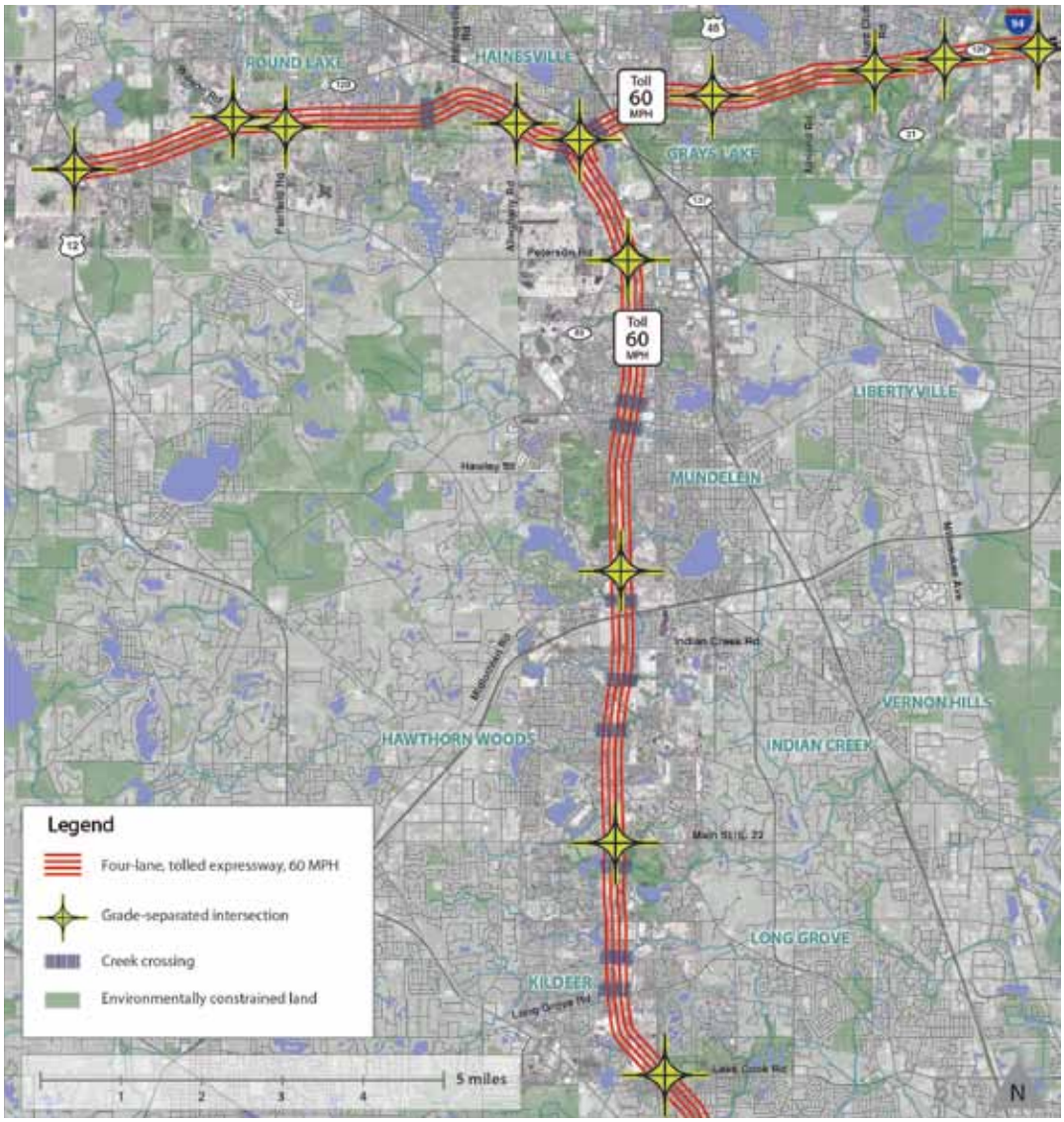
Figure X: Scenario C Map



Scenario C Highlights:

- Moderate potential environmental impacts
- Moderate-to-high new paved roadway surface
- Travel speed of 45 MPH
- Moderate reduction in travel congestion
- Grade separated intersections along the length of Routes 53 and 120
- Tolls collected on Routes 53 and 120

Figure X: Scenario D Map



Scenario D Highlights:

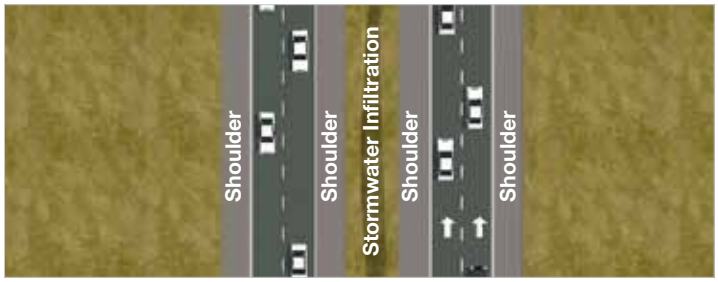
- High potential environmental impacts, similar to scenario E
- Moderate-to-high new paved roadway surfaces
- Travel speed of 60 MPH
- Moderate-to-high reduction in travel congestion
- Grade separated intersections along the length of Routes 53 and 120
- Tolls collected on Routes 53 and 120

Scenario D

In **Scenario D**, Route 53 and Route 120 are four lane tolled expressways. Travel speeds are 60 MPH along Routes 53 and 120. Grade-separated intersections allow for controlled access to adjacent roadways. The scenario footprint, potential environmental impacts, and new paved area are virtually equivalent to Scenario E.

Scenario D: Route 53 Cross-Section

Scenario D: Route 53 Plan View



Scenario E

In **Scenario E** both roads are tolled expressways. Route 53 is six lanes - four general travel lanes and two managed transit lanes - which can be used for bus rapid transit during peak times. Travel speeds are 60 MPH on both roads and all intersections are grade separated. This scenario is the most expensive to construct, it provides the greatest congestion relief, and is the only option with managed transit lanes. The scenario footprint, potential environmental impacts, and new paved area are virtually equivalent to Scenario D.

Scenario E: Route 53 Cross-Section

Scenario E: Route 53 Plan View

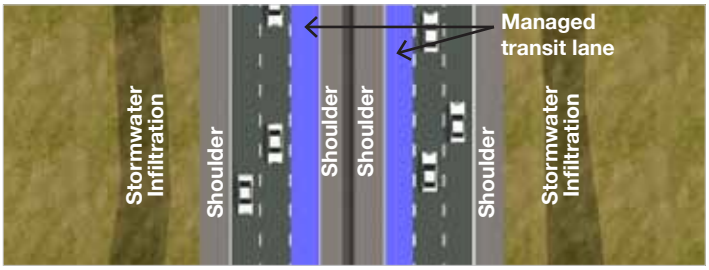
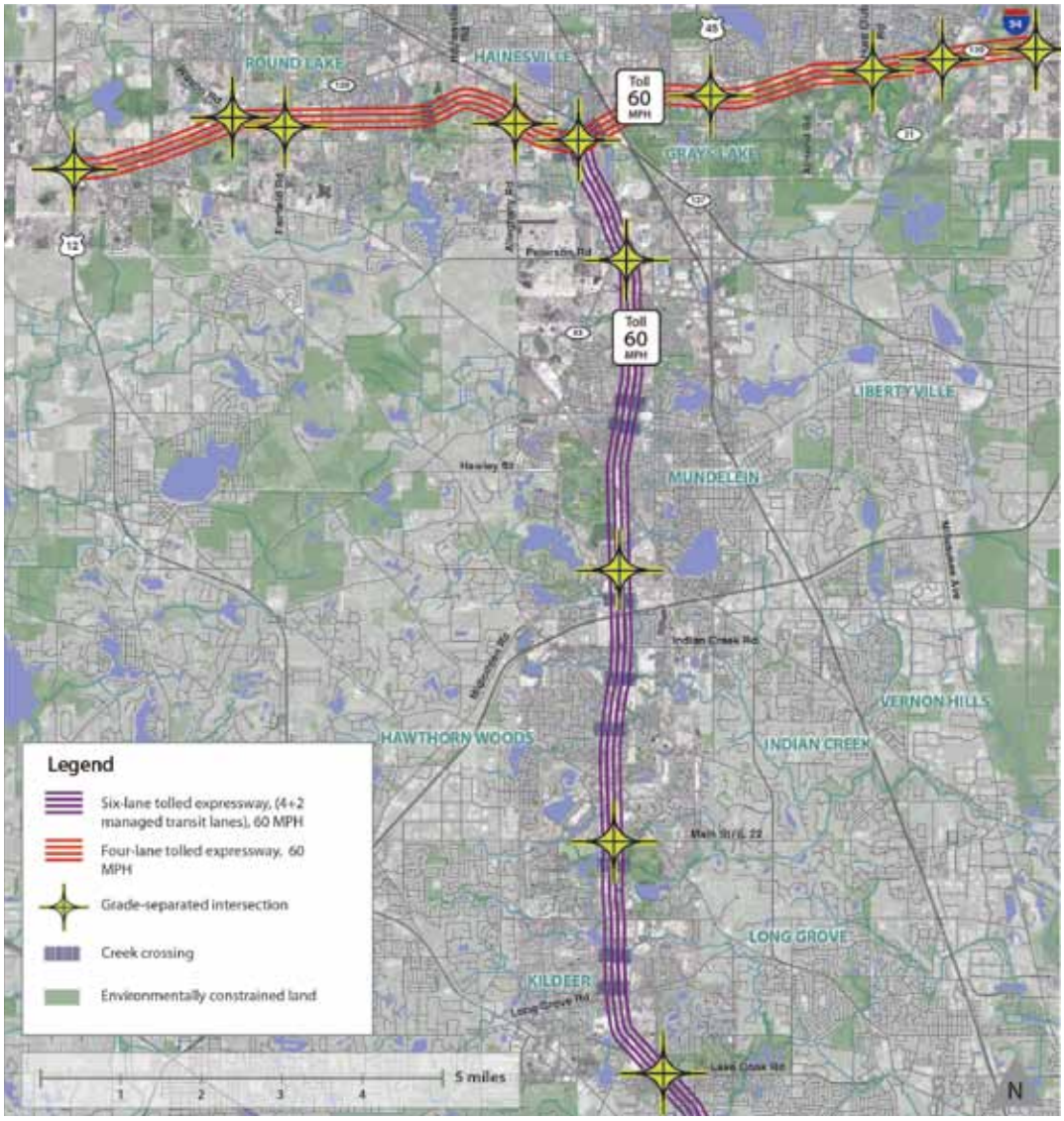


Figure X: Scenario E Map



Scenario E Highlights:

- High potential environmental impacts, similar to scenario D
- Maximum new paved roadway surfaces
- Travel speed of 60 MPH
- Highest reduction in travel congestion
- Grade separated intersections along length of Routes 53 and 120
- Tolls collected on Routes 53 and 120

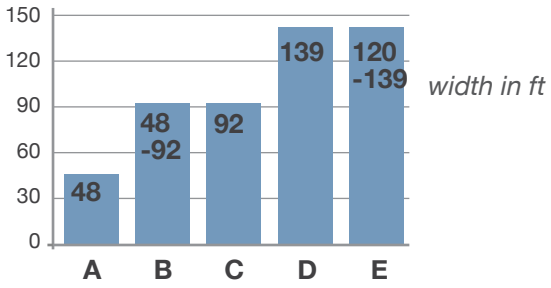
Comparing Scenario Performance

Indicator Evaluation

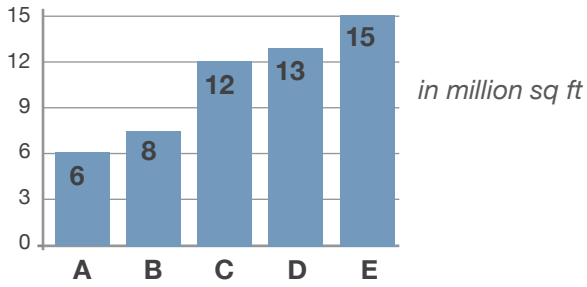
To evaluate the performance of the five initial test scenarios created for the facility, a set of indicators (or criteria) were used for comparison. The guiding principles, created earlier in the process, were integral to the scenario analysis and informed the selection of indicators and questions that were evaluated. Using indicators allows comparison in "like" terms and shows the relative benefits and costs of one solution compared to another.

How Much Development?

1. How large is the scenario footprint?

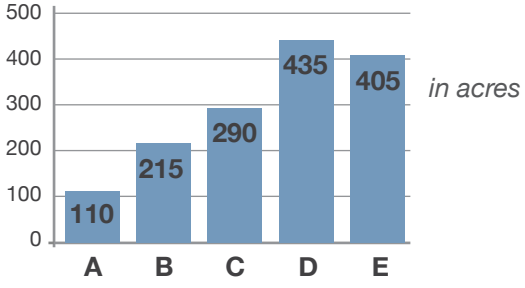


2. How much paved area is created, including travel lanes and shoulders?

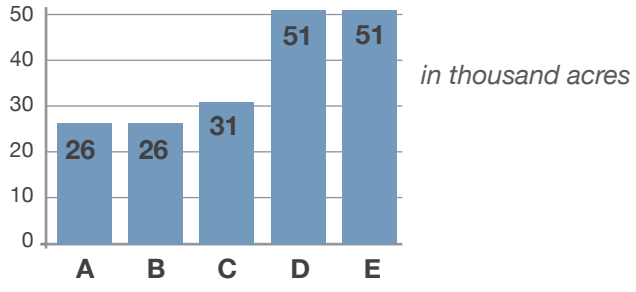


Impact on the Environment?

3. How much environmentally sensitive land potentially could be DIRECTLY impacted?



4. How much environmentally sensitive land potentially could be INDIRECTLY impacted?

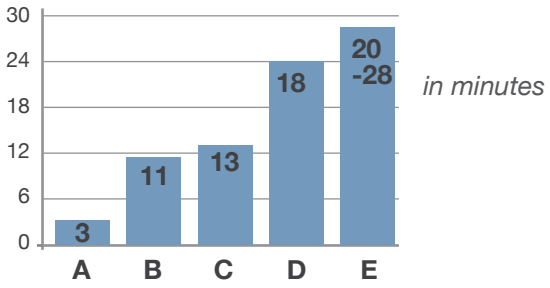


Notes:

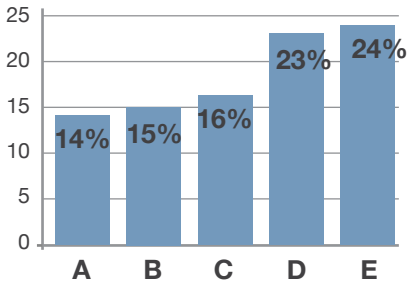
1. Approximate width of the scenario in feet (ranges are shown for scenarios that have different footprints for 53 and 120).
2. Approximate amount of pavement included in the scenario, including travel lanes and shoulders.
3. Projected acres of environmentally sensitive land that potentially could be impacted within the right of way.
4. Projected acres of environmentally sensitive land that potentially could be impacted within two miles of the right of way.

Reduced Congestion?

5. How much time could be saved on a typical trip from Waukegan to Schaumburg?

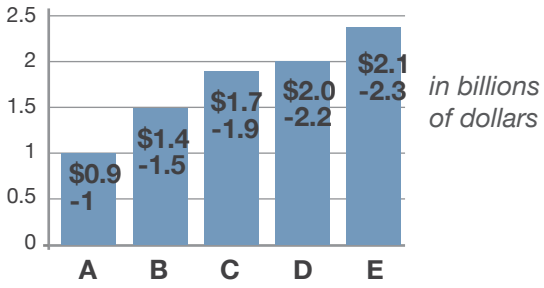


6. What percentage of congestion reduction compared to the 2040 no-build option?



Cost and Revenue?

7. How much will new construction cost?



8. What is the potential toll revenue?

Notes:

5. Time saved on a typical trip from Waukegan to Schaumburg. Current travel time (2010) is approximately 74 min. Future travel time (2040) under the no-build option is approximately 99 min.
6. Percent drop in congested vehicle hours traveled in Lake County, compared to the 2040 no-build option.
7. Estimated construction cost in 2020 dollars.
8. Estimated gross total annual revenue in 2025 (construction dollars are invested (2020) before revenue is realized (2025)).

Recommended Design Considerations

Why Is Design So Important?

In a growing region like Lake County, a new road can provide increased access to new markets and alleviate congestion. The potential benefits however, will be realized by communities' coordinated planning efforts and the application of the best practices in roadway design and community integration.

New roads can have many implications – not simply transportation solutions or issues, they affect communities, local streets, and the environment around them. In addition, a new roadway presents an opportunity to influence economic development in central Lake County. There are different ways that the road design can help or hinder to attract the types of growth that local communities want. Residential growth and economic development occur in response to improved access that the road brings, particularly around interchanges. However, new roads can also stimulate rapid and unplanned development, cause increased traffic on existing roads that are not prepared, and sensitive ecological areas can be irreparably damaged. A combination of careful roadway design and coordinated planning for desired land use around new interchanges can reduce unintended consequences for nearby neighborhoods and the environment.

Community Considerations

Roads Have a Strong Impact on Growth and Development

- Transportation and land use affect each other.
- Integrated land use and transportation planning can reduce some of the potential negative effects of increased highway capacity.
- Development character determines which transportation options are realistic.

Roads Bring Change

New roads can have a wide of effects on the surrounding neighborhoods and commercial areas.

- A new road can **link people to the larger area** – people may relocate near the new highway because they can use the highway to get to work and to places to shop.
- A new road can **spur growth and development** – new businesses may open near the highway because they can access new markets.
- A new road can **refocus areas of community growth** – existing off-highway businesses may experience new challenges competing for customers.
- A new road can **introduce new traffic challenges** – traffic may concentrate around highway intersections. Without additional connections, local trips increase congestion on the highway.
- A new road can **interrupt access** – the highway may act as a barrier. Like railroad tracks or a river, it can decrease access that might have existed previously.

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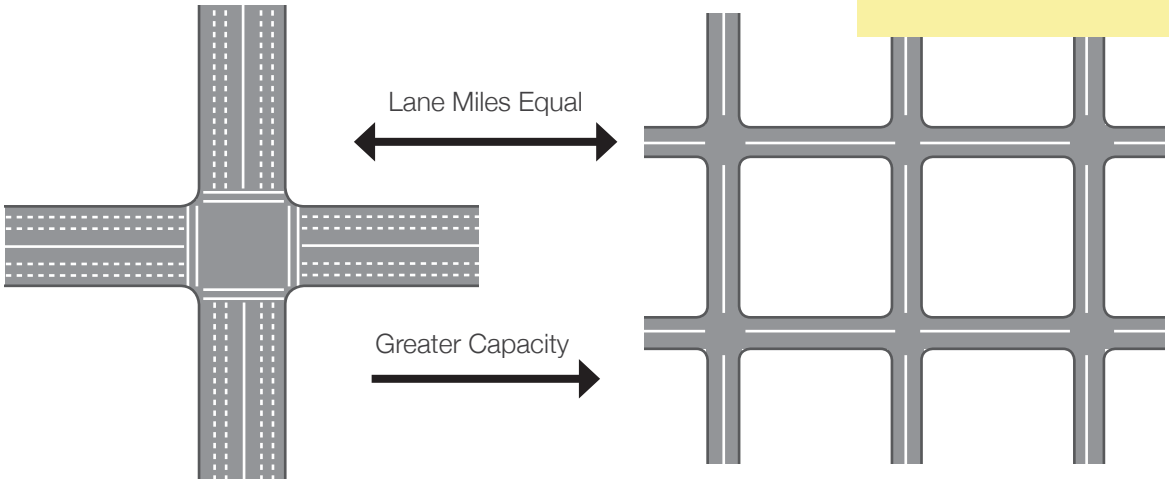
Image/Diagram Placeholder

Text to summarize these graphics.



Transportation Considerations

An Evolving Approach to Transportation: from "Moving Cars" to "Moving People"

Transportation planning is evolving. Traditional principles of transportation planning aim to move cars, and when roads become choked with traffic, the traditional approach is either more pavement or more efficiency. But a range of alternate "lateral" approaches to improving the transportation system are emerging.

First is the consideration of moving people instead of moving cars. This shift in perspective opens up the wide range of multi-modal solutions that can get people to where they need to go. Second is to improve the quality of travel, to see a road not just as a connection but as a place in itself, and one that exerts great influence over nearby places (neighborhoods, vacant land, centers of employment and activity). Third, we can view traffic and congestion in a holistic way as a land use issue. The goal might change to moving fewer people fewer miles – locating housing nearer to employment centers, retail and services, grocery stores, and recreational opportunities to reduce the need for driving long distances. And finally, transportation planning is evolving to see its mission not to eliminate traffic congestion, but to manage it. Tollways are one example of the management approach. By charging a premium for greater mobility, toll roads offer drivers the option to choose whether to pay for access to roads that are typically less congested or more direct.

Shifting Priorities: The Access and Mobility Spectrum

Traditional transportation planning adheres to a belief that improving the flow of traffic, known as a road's level of service, is the central goal of the transportation system. This thinking is being revised with holistic planning that accounts for behavioral change.

The level of service does not tell the complete story of a roadway's capacity. Actual capacity increases beyond predicted capacity when people's behaviors change. And people change their behavior when they have viable options. Behavior change is the missing ingredient that is not traditionally included in transportation planning or analysis. Compared to the level-of-service mentality, where roadways "fail" when they reach the point of congestion, many other factors can greatly expand the system's capacity to connect people to where they need to go.

Conventional Approach

An approach based on automobile capacity.

MOVE CARS

More Lanes
More Roads
More Cars
System Management

Quality Growth Approach

An approach based on human and environmental quality standards and changing patterns of use.

MANAGE, NOT "SOLVE"

Lane Limits
Change Standards

MOVE LESS PEOPLE, FEWER MILES

Land Use
Road Network
Congestion Pricing
Telecommuting
Sizing of Destinations
In-Town Living

MOVE PEOPLE, NOT CARS

Walking
Transit
Biking

IMPROVE QUALITY OF TRAVEL

Streets as Centerpieces
Business Friendly
Traffic Calming & Ecological Restoration
Access, Not Mobility
Driver-Eye View

Environmental Considerations

Roads have a strong impact on the land, not only directly adjacent to a new roadway, but beyond the construction zone.

Types of Environmental Impacts

Direct – within the right of way

- Wetlands filled
- Upland forest habitat lost
- Agricultural land and grasslands lost

Indirect – beyond the construction zone, salt and hydrology impacts

- Wetlands impaired by runoff, salt, and watershed modifications
- Tree mortality and soil quality changes from wind-borne de-icing salt
- Erosion of downstream channels and streams

Intrinsic – impacts to environmental services performed by a healthy, natural landscape, provided to us at no cost by nature

- Water cleansing
- Air purification
- Pollination of crops

Measured Potential Impacts of a New Roadway

- Wetland impacts
- Water resources impacts
- Upland habitat impacts
- Wildlife species and biodiversity impacts
- Threatened and endangered species impacts
- Conservation land impacts
- Noise and light impacts
- Contaminant impacts
- Agricultural land impacts

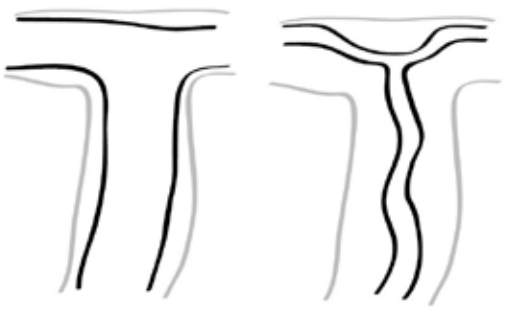
Reducing Environmental Impacts

Several road design concepts can reduce the potential environmental impacts of a new road.

- **Steady traffic flow:** Stop and go traffic contributes disproportionately higher emissions whenever drivers are quickly accelerating or braking. Steady-flowing traffic will have reduced potential impacts.
- **Lower speed:** High speeds create more noise, spread contaminants farther (including salt and combustion byproducts), and require more paved area for the safety of drivers.
- **Smaller road:** Reducing the length and width of the new roadway will reduce the potential impacts to wetlands, nature preserves, and agricultural lands.
- **Stormwater treatment:** Capturing and treating stormwater runoff along the roadway ensures better water quality by the time the water reaches nearby wetlands, lakes and streams. This can be done by directing stormwater runoff to the median and roadside swales for capture, holding and pre-treatment, then releasing the water to nearby grasslands or wetlands for polishing.

New road construction should follow a thoughtful process from beginning to implementation, one which seeks to protect and incorporate natural features using best practices to "avoid, minimize, mitigate and compensate."

ROAD SCENARIO



Worst Case: 300' Impacts

Best Case: Min. Impacts

ROAD DESIGN

Avoid Forests and Wetlalnds, Minimize Noise with Barriers

MTIGATE AND COMPENSATE

Create Stream Buffers, Connect Stewardship Lands

The Council Design Workshop

At the Workshop

After the scenarios were created, a design workshop was conducted in February for the Council members in order to discuss potential solutions and alternatives for the Route 53/120 facility and prioritize the guiding principles. At the workshop, each of the five scenarios and their indicator results were presented, along with the recommended design considerations. Council members were asked to grapple with the issues and trade-offs related to the options available, and were encouraged to think creatively and combine elements to create "hybrid" scenarios. In the end, three hybrid scenarios were created and instant polling revealed the Council's top three guiding principles: **innovative design solutions**, **minimize environmental impacts**, and **promote environmental enhancements and sustainable practices**.

When asked which scenario best promotes the top three principles (*innovative design solutions, minimize environmental impacts, and promote environmental enhancements and sustainable practices*), Scenario B was the most common choice.

Hybrid Scenario #1 Outcomes:

- 45 MPH, 4 lanes
- Limited Route 120 bypass
- Environmental congestion pricing
- Innovative model that conveys the character of Lake County
- Stormwater infiltration
- Consider no interchange at Long Grove due to nearby wetlands

Hybrid Scenario #2 Outcomes:

- "Lake County Greenway"
- 45 MPH, 4 or 6 lanes
- Consider economic development at interchanges
- Underground at Route 53/120 intersection
- Possible transit lane

Hybrid Scenario #3 Outcomes:

- 4 lanes
- 55 MPH at the south end, reduced to 45 MPH north of Midlothian Road
- Incorporate "wiggles"to avoid most sensitive areas
- Route 120 tolled for new areas only
- Aim for least environmental impact
- Include pedestrian crossings
- Noise abatement

Workshop Outcomes

A Consensus (Conceptual) Scenario

From the three hybrid scenarios created by the Council members, a consensus (conceptual) scenario emerged. A consensus scenario is not a detailed design for the facility, but will assist Council members in crafting a common vision for the future of the corridor. The consensus scenario includes common themes from the three hybrid scenarios which favored a roadway with a smaller footprint, innovative environmental mitigation and enhancements, and slower speeds.

- All three workshop scenarios opted for lower speed and smaller footprint facilities than the most extensive test scenario (scenario E).
- The Long Grove wetlands are of particular interest and concern to Council members.
- An innovative roadway design could enhance Lake County's identity as a leader in conservation. There seemed to be strong cohesion on this point during the presentation and discussion of workshop scenario results.
- Lane management and congestion pricing (in a variety of possible forms) were very popular options. One workshop group proposed "environmental congestion pricing."
- Any potential roadway must seriously consider and address the environmental impacts, both direct and indirect.

Appendix

Suggested content for Appendix

- Tailored Design Solutions for Land and Community Sensitive Areas
- Noise Standard Table
- February 9th Environmental Enhancements Matrix
- CMAP Future Land Use Change Memo
- IL-53/120 Analysis Following the March 12th Mobility Finance Meeting
- CMAP Value Capture Memo
- CMAP Sales Tax Revenue Estimates Memo
- Work Plan for Creating a Corridor Plan
- Grayslake Vision Document