NORTH DUSABLE LAKE SHORE DRIVE STUDY SPOTLIGHT

LEVEL 3 SCREENING ENVIRONMENTAL CRITERIA

Level 3 Screening Criteria: Results

February 2023

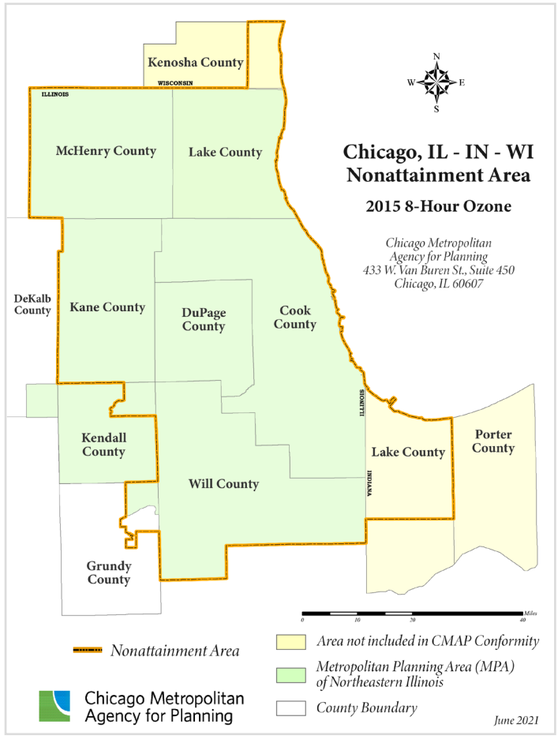
The North DuSable Lake Shore Drive (NDLSD) Phase I Study is currently evaluating the five remaining NDLSD Build Alternatives ("Level 3 Screening"). As part of this evaluation, nearly 30 different criteria are being considered, including Performance, Social, Economic and Environmental factors. The project team has separated criteria into two categories: 1) Distinguishing criteria contain results that vary amongst alternatives, and 2) Non-distinguishing criteria contain results that are the same or similar amongst alternatives. This Study Spotlight addresses several non-distinguishing Level 3 Screening criteria associated with each of the remaining alternatives under consideration, including air quality conformity, traffic noise, threatened and endangered species, and natural areas. For additional details regarding the overall Phase I Study, please visit the project website at northdusablelakeshoredrive.org.

AIR QUALITY

Air Quality Conformity

The Clean Air Act (CAA) requires that federally funded or federally approved transportation plans, programs or projects achieve Federal air quality standards. These National Ambient Air Quality Standards (NAAQS) include six pollutants of concern (carbon monoxide, ozone, lead, sulfur dioxide, nitrogen dioxide, and particulate matter) that are monitored in major metropolitan areas including the northeast Illinois Region. The NAAQS were developed by the US Environmental Protection Agency (USEPA) and are designed to protect human health and the environment.

Areas in northeast Illinois (as shown in the image to the right) have been found to exceed the standards for ozone (smog), which is known as "non-attainment." To address non-attainment, the CAA requires the development of Implementation Plans to ensure that transportation projects do not cause new air quality violations, worsen existing violations, or delay attainment of the relevant NAAQS.



To meet these requirements in northeast Illinois, the Chicago Metropolitan Agency for Planning (CMAP) develops a transportation program every ten years to guide the reduction in levels of pollutants to meet national standards. CMAP's most current plan, *ON TO 2050*, includes an evaluation of the impact of proposed transportation activities on the region's air quality. This evaluation, called a Conformity Analysis, must demonstrate that implementation of the long-range regional transportation plan or Transportation Improvement Program (TIP) will meet the requirements of the CAA.

The results of CMAP's Conformity Analysis indicate that the transportation projects in *ON TO 2050*, including the reconstruction of NDLSD, conform to NAAQS related to Ozone. The *ON TO 2050* transportation projects are not expected to result in a worsening of air quality or delay progress toward attainment of air quality standards. These results are anticipated for all remaining NDLSD alternatives. The Conformity Analysis is periodically updated by CMAP and additional information is available on their website (cmap.illinois.gov/2050/resources).

Next Steps

Upon selection of a preferred alternative, further air quality analyses will be conducted to assess any effects at a project level. Additional information on regional effects of the project alternatives related to greenhouse gases (GHGs) and Climate Change will be presented at Task Force Meeting #14.

TRAFFIC NOISE

A Traffic Noise Analysis is used to determine where noise impacts may be experienced when a transportation improvement is put in place. Typically, an impact occurs when traffic noise interferes with everyday activities at a specified location, or receptor. Receptors are defined as areas of frequent human activity, such as building entrances, park benches, ball fields, community gardens, beaches, outdoor dining areas, trail crossings, and many other types of facilities. A 'representative receptor' typically represents the worst-case noise condition within a group of Common Noise Environments (CNE). An impact occurs when the predicted noise level at a representative receptor exceeds established decibel thresholds. Please see the NDLSD project's previously released Noise Study Spotlight for more details on impact levels.

What Causes Changes in Traffic Noise Levels?

The noise levels resulting from a roadway improvement are influenced by several factors, including:

Horizontal Proximity

Generally, moving a roadway closer to a receptor causes an increase in noise levels, and moving a roadway farther from a receptor decreases them. All of the five remaining build alternatives propose a realignment of the Outer Drive further east from receptors along the urban edge between Grand Avenue and LaSalle Drive and between Belmont Avenue and Grace Street.

Vertical Proximity

Placing a roadway above or below the relative receptor elevation will change noise levels. All of the remaining alternatives also propose elevation changes of the Outer Drive at Chicago Avenue, Oak Street/Michigan Avenue, Addison Street, and Irving Park Road. Lowering the roadway below a receptor elevation generally decreases traffic noise levels.

Traffic Mix

Large vehicles such as trucks or buses also affect noise levels. Trucks are restricted on the Outer Drive, and although the Outer Drive includes multiple express bus routes, buses only comprise approximately 1% of the total vehicles using the Outer Drive.

Traffic Volumes

Generally, larger traffic volumes equate to an increase in noise levels. It takes a doubling in traffic volume to produce a change in noise levels that is perceptible to the human ear. Traffic projections from the Chicago Metropolitan Agency for Planning (CMAP) for the year 2050 were used to estimate traffic volumes.

Barriers

Retaining walls and other barriers that deflect noise will also affect noise levels. As part of the roadway geometrics for the build alternatives, a roadside barrier wall is being considered along both directions of the Outer Drive. This type of wall can vary in height from 32" to 42" and examples currently exist along portions of NDLSD as well as SDLSD. This type of roadside barrier is primarily provided as a safety measure, however, analyses indicate that this type of wall also generally helps to reduce the roadside noise generated by tires on the roadway pavement. The rule of thumb is that if a barrier blocks the "line of sight" between a receptor and the noise source, the barrier will reduce some of that noise.

Noise Modeling Results

Preliminary modeling for Level 3 screening concentrated on the relative differences in noise levels generated from the mainline NDLSD and Inner Drive for the No Action and five remaining build alternatives. The model used for the analysis (TNM 2.5) is the federally approved model for analyzing traffic noise. Key model inputs include:

- 2050 Traffic Volumes
- Roadway Geometrics
- Significant Topographic Features
- Receptors

In general, the design changes proposed for the Build Alternatives may be expected to reduce, rather than increase, the level of noise impacts in the adjacent community. This conclusion is supported by the modeling, where the Build Alternatives reduce the number of representative receptors impacted by traffic noise as compared to the No Action Alternative. This is primarily a result of changes in the horizontal and vertical proximity of the proposed roadway to receptors as well as the implementation of a roadside barrier wall. The Essential Alternative is predicted to result in the fewest number of represented receptors impacted by traffic noise, primarily because it has the narrowest transportation footprint. Overall, the results for the build alternatives are similar to one another and therefore, traffic noise impacts are considered a non-distinguishing criterion in selecting a preferred alternative.

Alternative	Total # of Impacted Representative Receptors
No Action	66
The Essential	27
The Addition	32
The Exchange	29
The Flex	29
The Double Flex	34

Next Steps

Upon selection of a preferred alternative, a more detailed noise model will be created to further define traffic noise impacts in the study area and develop detailed mitigation strategies for potential impacts.

THREATENED AND ENDANGERED SPECIES

Section 7 of the Endangered Species Act (ESA) requires that projects with federal jurisdiction do not jeopardize the existence of any federally listed threatened or endangered species or destroy or adversely modify designated critical habitat of any listed species. Any proposed impacts to federally listed species must be coordinated with the US Fish and Wildlife Service (USFWS). At the state level, state listed species are protected by the Illinois Endangered Species Protection Act and Section 17 of the Illinois Natural Areas Preservation Act. Any proposed impacts to these state resources must be coordinated with the Illinois Department of Natural Resources (IDNR). Coordination with both federal and state agencies has been ongoing since the outset of the NDLSD study.

The environmental data gathered to date includes the range and habitat of identified species as well as recorded sightings to determine which species may be affected by the NDLSD project. Because species can move, and site conditions can change, any potential effects to species that may be in the project area require additional project site-specific information, such as biological surveys. Botanical and avian surveys of the project area were completed by Illinois Natural History Survey (INHS) biologists during the summer of 2021. These surveys identified suitable habitat for and the presence of several state and federally protected species in the project area.

Each of the remaining five alternatives result in direct impacts to some of the identified suitable habitats including trees, wetlands, beaches and shoreline, which may or may not affect listed species. Impacts to wetlands, beaches and shoreline are comparable for all remaining alternatives and therefore, are not considered to be a distinguishing factor in the determination of a preferred alternative.

It is anticipated that there will be notable differences in the magnitude of tree impacts resulting from each of the alternatives, which will be discussed at Task Force Meeting #14.

Next Steps

Potential impacts to individual species will be determined once a preferred alternative is selected. Further analysis and coordination with IDNR and USFWS will be needed to fully determine the presence of impacts and appropriate mitigation strategies, as applicable.

Blue-hearts (Buchnera americana), a Threatened plant at Montrose Beach Dunes Natural Area, July 2021. The NDLSD project will not directly affect this area. | Photo credit: INHS Botanical Survey Report

Black-Crowned Night Heron, nesting colony within the Lincoln Park Zoo. The NDLSD project will not directly affect this area. | Photo credit: IDNR

Trees, wetlands, beaches, and the Lake Michigan shoreline provide suitable habitat for certain threatened and/or endangered species. | Photo date: 2017

NATURAL AREAS

High quality natural areas throughout the state are identified and documented in the Illinois Natural Areas Inventory (INAI). More localized natural areas have been identified by the Chicago Park District (CPD). Urban natural areas provide patches of suitable habitat for species that would otherwise not be able to thrive or survive in a built environment. Unique natural areas can be found in even the most urbanized environments – a prime example is the Lake Michigan coast. Notable community types include panne, or natural wetlands that occur in interdunal swales near Lake Michigan, as well as beach, foredune, and sand prairie communities. Areas classified as INAI sites or CPD Natural Areas in the project study area are listed below. Additional designations are also noted, as applicable.

Name	Community Area	Site Type	Directly Impacted by NDLSD Project?
Lincoln Park South Pond	Lincoln Park	CPD Natural Area	No
Lincoln Park Rowing Lagoon	Lincoln Park	CPD Natural Area	Yes*
Alfred Caldwell Lily Pool	Lincoln Park	CPD Natural Area	No
North Pond Nature Sanctuary	Lincoln Park	CPD Natural Area	No
Bill Jarvis Bird Sanctuary	Lake View	CPD Natural Area, Birding Hotspot	No
Marovitz Golf Pond	Uptown	CPD Natural Area, Audobon Cooperative Sanctuary	No
Marovitz Savanna Natural Area	Uptown	CPD Natural Area, Savanna Restoration Site	No
Montrose Beach Dunes	Uptown	CPD Natural Area, INAI Site, Two Prairie Reconstruction Sites Nearby	No
Montrose Point	Uptown	CPD Natural Area, Important Birding Area	No
Kathy Osterman Beach Dune	Edgewater	CPD Natural Area	No

**Fill required for all NDLSD alternatives (ranges from 0.08 acres to 0.69 acres of fill)*

Each of the remaining alternatives avoid the natural areas noted above, with the exception of the Lincoln Park Rowing Lagoon. All the remaining alternatives involve fill impacts in the Lagoon, to varying degrees. Further details are provided in the Surface Waters Study Spotlight.

Next Steps

Coordination is ongoing with the Chicago Park District and other agencies to assess impacts and identify potential avoidance, minimization or mitigation strategies. Additional coordination with IDNR and USFWS will also occur regarding effects to natural areas.

Montrose Beach Dunes Natural Area, June 2021. The NDLSD project will not directly affect this area. | Photo credit: INHS Botanical Survey Report

Bill Jarvis Migratory Bird Sanctuary. The NDLSD project will not directly affect this area. | Photo credit: Chicago Park District - Natural Area

If you have any comments on the information in this handout, or any other project materials, please email the project team at **info@ndlsd.org**.