

248th AVENUE ROADWAY IMPROVEMENT PROJECT

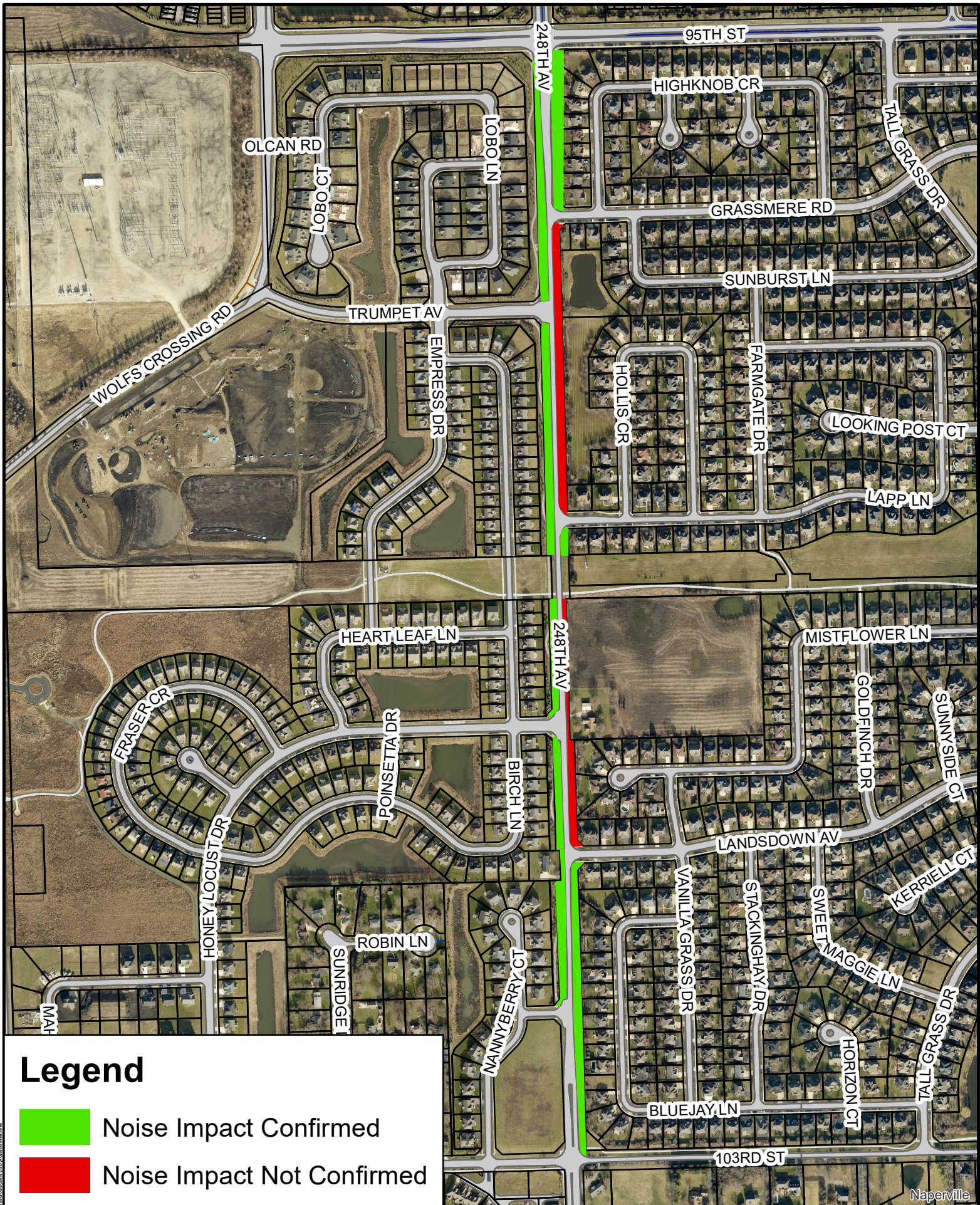
Revised Noise Impact Analysis

An initial noise assessment, which was completed before approval of the Islamic Center of Naperville's (ICN) construction on 248th Avenue, did not show noise impact meeting the standard for installation of a sound barrier in any neighboring areas. However, since the November approval of the ICN project, the consultant for the 248th Avenue roadway improvement project has completed a revised noise assessment (included here) that models peak traffic from the fully built-out ICN site. This revised noise assessment shows noise impact in several nearby areas. (A measurement of greater than 66 decibels (dBa) is the Illinois Department of Transportation threshold for impact).

On the included map, a green line denotes areas where a noise impact was confirmed, while a red line denotes areas where the noise impact was below the threshold. Showing noise impact is the first of four criteria that must be satisfied. The project consultant currently is analyzing three remaining criteria to confirm they meet all four requirements. Construction of a noise abatement wall must also be:

1. Economically feasible, with a total cost of \$30,000 or less per benefitted property,
2. result in a noise reduction of 5 decibels or greater; and
3. be deemed reasonable to construct

The Federal Highway Administration and the Illinois Department of Transportation will provide funds for a noise abatement wall only in situations where all four criteria are met; otherwise the City would be responsible for the entire cost of any wall should it choose to construct one. The City Council is the governing body charged with making these decisions. Council will confirm if the project need exists and if staff should apply for federal funding, confirm the design alternative and decide where the noise wall should be constructed after approval by the Transportation Advisory Board.



Legend



Noise Impact Confirmed



Noise Impact Not Confirmed



Transportation, Engineering and
Development Business Group
www.naperville.il.us
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City of Naperville

248th Avenue Noise Analysis

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Naperville

Revised Highway Noise Impact Analysis

Chicago Metropolitan Agency for Planning (CMAP)

In response to public concern regarding the 2050 Build traffic projections, additional coordination was completed with CMAP to determine if the full-build Islamic Center of Naperville development was included in the original traffic projections. While CMAP did include development and growth for that parcel, it was not at the size of the proposed ICN development. The City of Naperville was directed by CMAP to modify the 2050 Build Design Hourly Volume (DHV), however the 2050 Build Average Daily Traffic projections are to remain the same. The traffic analyses have been updated to include the 2050 Build + ICN peak hour traffic predicted to be generated by the ICN at full build-out. Alternative Two remains the Preferred Alternative with the updated traffic and geometric analysis.

Highway Noise Analysis Update (PRELIMINARY ONLY)

The highway noise analysis is being revised to include the updated 2050 Build + ICN projected traffic. The preliminary findings show that there are now noise impacts at some receptors along the corridor. See following page for locations of noise impacts. Analyses are still being completed to determine if the installation of noise barriers at impacted locations meets the Federal/State installation criteria. **The Highway Noise Analysis update is preliminary only and is subject to additional detailed analyses and Federal/State review.**

Federal/State regulations and guidelines have established *Feasibility* and *Reasonableness* criteria to apply to locations that have noise impacts to determine if noise barriers are likely to be constructed. A barrier is *feasible* if it meets the following two criteria:

- It can be physically constructed from an engineering standpoint.
- It is tall enough and long enough to result in an attenuation of 5 decibels or more for at least two impacted receptors behind the noise barrier.

A barrier is *reasonable* if it meets all three of the following criteria:

- It results in an attenuation of 8 decibels or more for at least one receptor.
- It meets cost per benefited receptor criteria (including cost of barrier materials, right-of-way acquisition, and mitigation).
- A majority of the residents who benefit from the wall desire its installation. This is determined through a voting process after the initial noise report is reviewed and approved by IDOT.

If locations meet all of the above *Feasibility* and *Reasonableness* criteria, then the conclusion in the Phase I study is that a noise wall will likely be constructed. There is potential that during detailed design (Phase II Engineering), new discoveries may change the *Feasibility* and *Reasonableness*, such as unknown underground utilities, poor soil conditions, right-of-way negotiations, etc.

Preliminary Only - Subject to Further Analysis and Federal/State Review

CNE No.	West or East Side	Between		Modeled Existing Condition (dBA)	2050 CMAP Traffic + Full Build ICN	
		South	North		2050 Predicted Build Condition (dBA)	Consider Abatement?
1	East	103rd	Landsdown	62	<u>66</u>	<u>Yes</u>
3	West	Arrowwood	Landsdown	62	<u>66</u>	<u>Yes</u>
4	East	Landsdown	Tall Grass Greenway	61	65	No
6	West	Landsdown	Honey Locust	64	<u>68</u>	<u>Yes</u>
9	West	Honey Locust	Com Ed Property	61	<u>66</u>	<u>Yes</u>
10	East	Tall Grass Greenway	Lapp	62	<u>66</u>	<u>Yes</u>
12	East	Lapp	Trumpet	61	65	No
14	West	Com Ed Property	Trumpet	61	<u>66</u>	<u>Yes</u>
15	East	Trumpet	Grassmere	61	62	No
17-21	West	Trumpet	95th	63	<u>66</u>	<u>Yes</u>
18-19	East	Grassmere	95th	64	<u>66</u>	<u>Yes</u>

- 66 decibels is the threshold at which IDOT considers a residential receptor to experience a traffic noise impact in the 2050 design year.

- *Consideration of Abatement* means that analyses must be conducted to determine if the noise barrier is *feasible* and *reasonable* based on Federal/State criteria.