Welcome!

Highways 169/41/78/14 Intersection Improvements

Bienvenidos!

Mejoras de Interseccion de Autopistas 169/41/78/14

Project Partners:
Asociados del Proyecto:

Scott | Louisville TOWNSHIP | Minnesota Department of Transportation | Jackson TOWNSHIP

Project Updates | Actualizaciones del proyecto

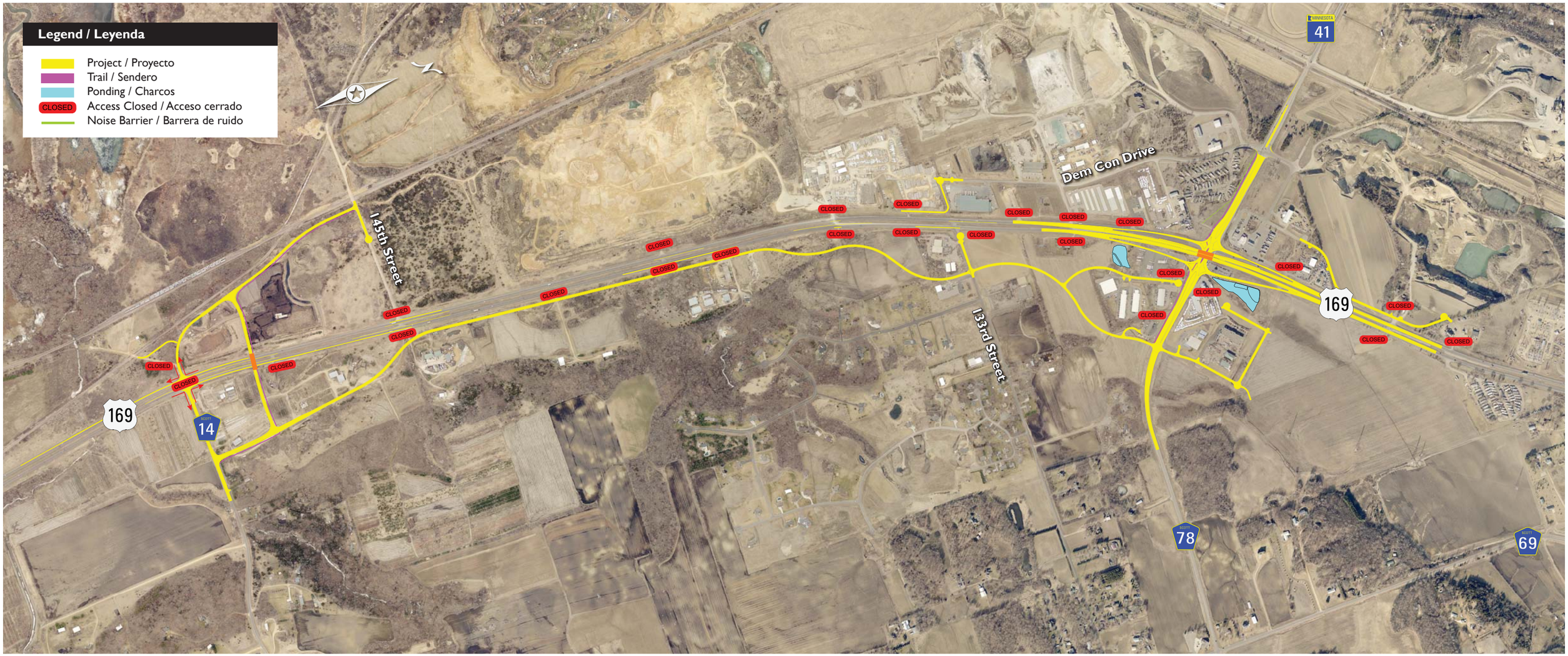
Scott County was successful in obtaining additional federal funding to expand the scope of the project to include a proposed overpass over US 169 near CH 14 and extension of the frontage road system along the east side of US 169 between CH 78 and CH 14.

The environmental document being prepared for the project will be a Categorical Exclusion for the purposes of federal environmental review and an Environmental Assessment Worksheet for the purposes of state environmental review.

El condado de Scott tuvo éxito en obtener fondos federales adicionales para ampliar el alcance del proyecto para incluir un paso a desnivel propuesto sobre la US 169 cerca de la CH 14 y la extensión del sistema de fachada del camino a lo largo del lado este de la US 169 entre la CH 79 y la CH 14.

El documento ambiental que se está preparando para el proyecto será una Exclusión Categórica para los propósitos de la revisión ambiental federal y una Hoja de Evaluación Ambiental para los propósitos de la revisión ambiental estatal.

New Project Area | Nueva área del Proyecto

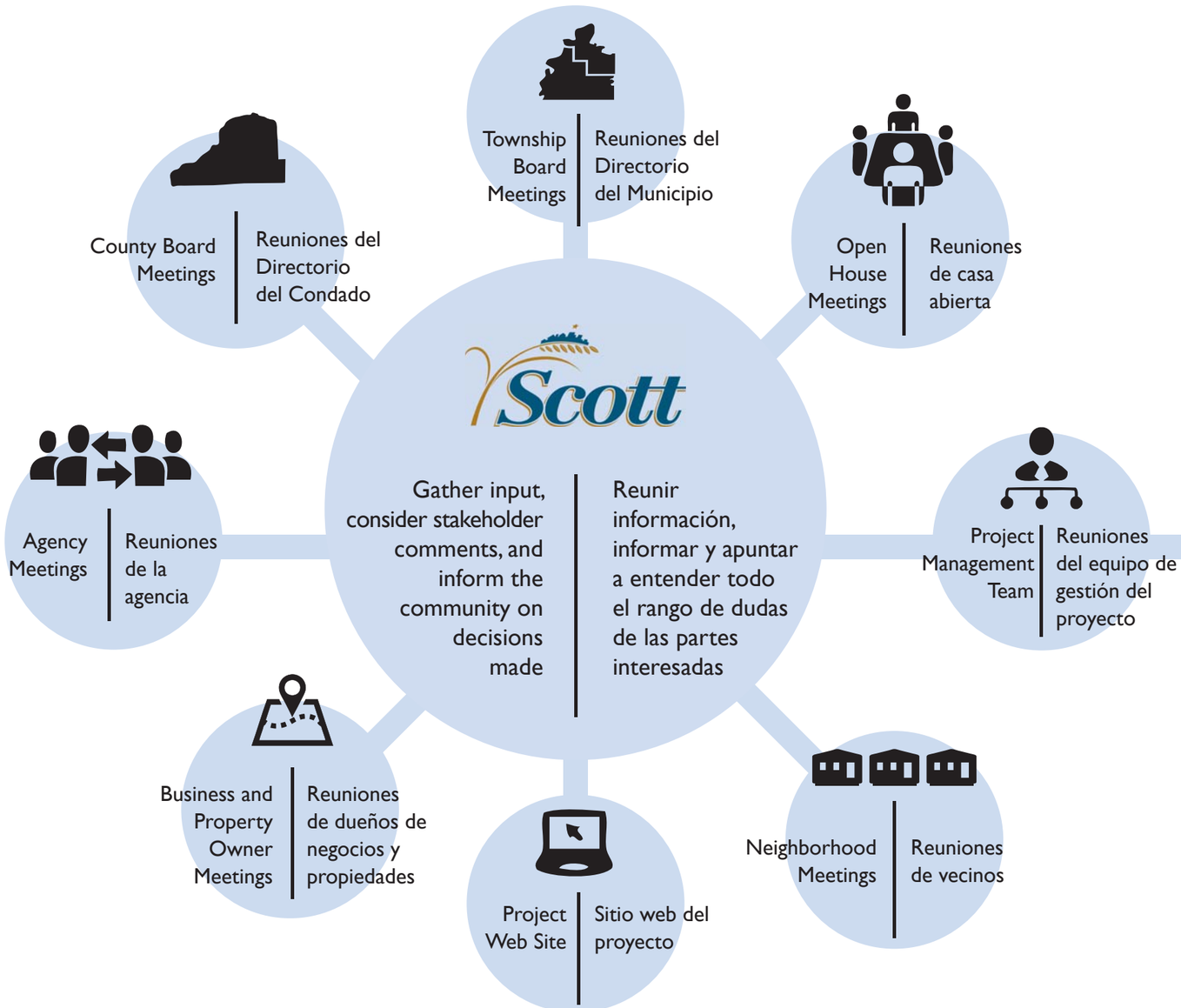


DRAFT - SUBJECT TO CHANGE

Highways 169/41/78/14 Intersection Improvements

Scott | Louisville TOWNSHIP | Minnesota Department of Transportation | Jackson TOWNSHIP

Public and Agency Participation Approach | Participación Pública y de la Agencia



Project Management Team: | Equipo de Gestión del Proyecto:

County:

- Craig Jenson, Transportation Planning
- Lisa Freese, Transportation Program Delivery

Townships:

- Tom Weckman, Jackson Township
- John Weckman, Louisville Township

MnDOT:

- Jon Solberg, Area Manager
- Diane Langenbach, Area Engineer

Topics under Study | Temas de estudio

Crashes – Safety

- Types of crashes
- Severity of crashes
- Crash location

Existing Traffic

- Type of traffic (trucks, commuter, etc.)
- Existing congestion at intersections
- Existing congestion on the main corridor
- Ability to access TH 169 from side streets and driveways
- Non-motorized traffic

Contamination

Wetlands

Environmental Justice

Future Traffic

- Future congestion at intersections
- Future congestion on the main corridor
- Ability to access TH 169 from side streets and driveways
- Non-motorized traffic

Noise

- Existing sound levels
- Future sound levels with no project
- Future sound levels with project

Property Impacts

Threatened and Endangered Species

Surface Waters and Drainage

Choques/Seguridad

- Tipo del choques
- Severidad del choque
- Lugar del accidente

Tráfico Existente

- Tipo de tráfico
- Congestión intersección existente
- La congestión camino existente
- Poder acceder a TH 169 desde las calles laterales y calzadas
- Tráfico no motorizado

Contaminación

Pantanos

Justicia Ambiental

Tráfico Futuro

- El futuro de la congestión en la intersección
- Futura congestión en las carreteras
- Poder acceder a TH 169 desde las calles laterales y calzadas
- Tráfico no motorizado

Ruido

- Los niveles de ruido existentes
- Futuros niveles de sonido con ningún proyecto
- Futuros niveles de sonido con proyecto

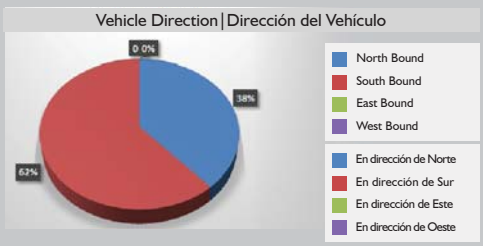
Impactos en la Propiedad

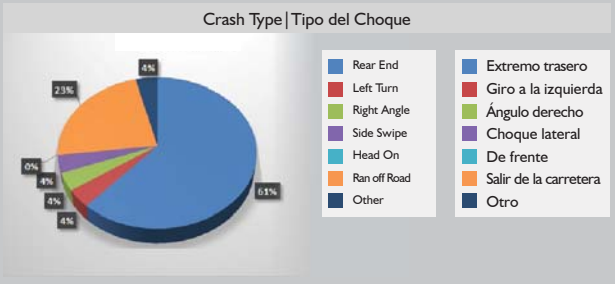
Especies Amenazadas y En Peligro

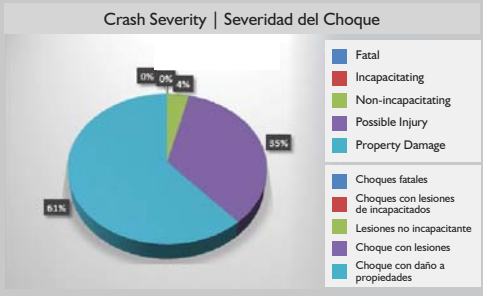
Agua Superficial y Drenaje

Crashes - Segments | Choques - Segmentos

TH 169 between CH 69 and TH 41 (2010-2014)

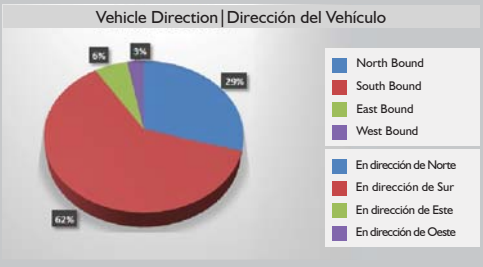


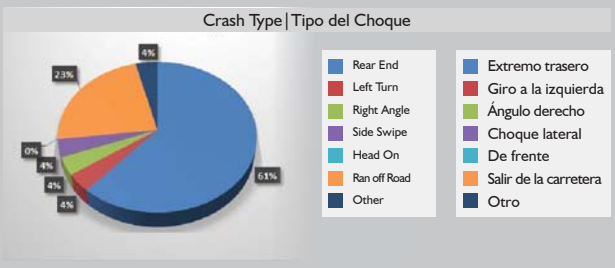


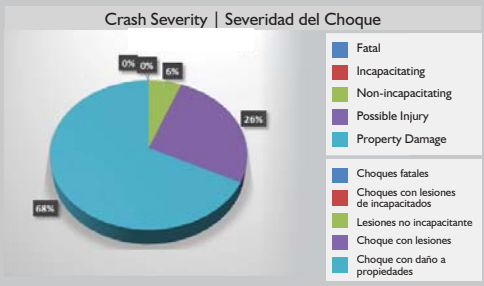


Location (Locación)	Number of Crashes (Número de choques)	Daily Vehicles Entrada diaria de vehículos	Crash Rate (Tasa de choques)	Severity Rate (Tasa de severidad)	Critical Crash Rate (Tasa de choques críticos)
	26	29,500	0.64	091	
Statewide Average (Tasa de choques promedio a nivel del Estado)			0.66	0.99	1.00

TH 169 between TH 41 and CH 14 (2010-2014)



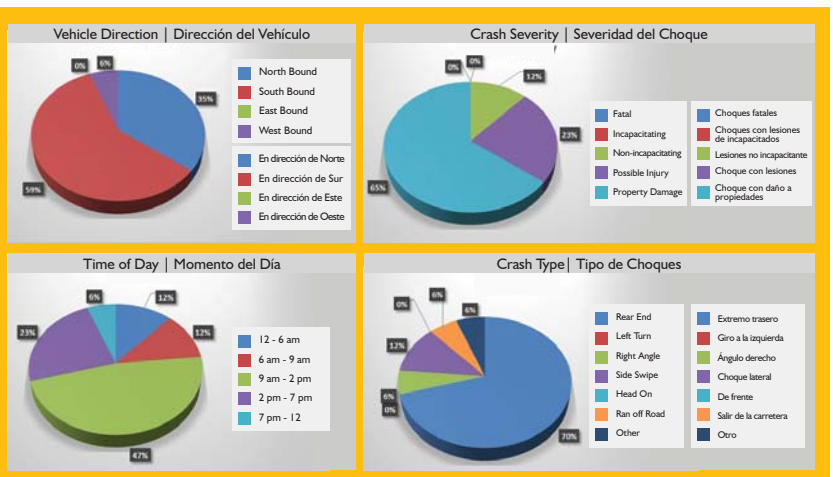




Location (Locación)	Number of Crashes (Número de choques)	Daily Vehicles Entrada diaria de vehículos	Crash Rate (Tasa de choques)	Severity Rate (Tasa de severidad)	Critical Crash Rate (Tasa de choques críticos)
	34	26,500	0.30	0.41	
Statewide Average (Tasa de choques promedio a nivel del Estado)			0.66	0.99	0.86

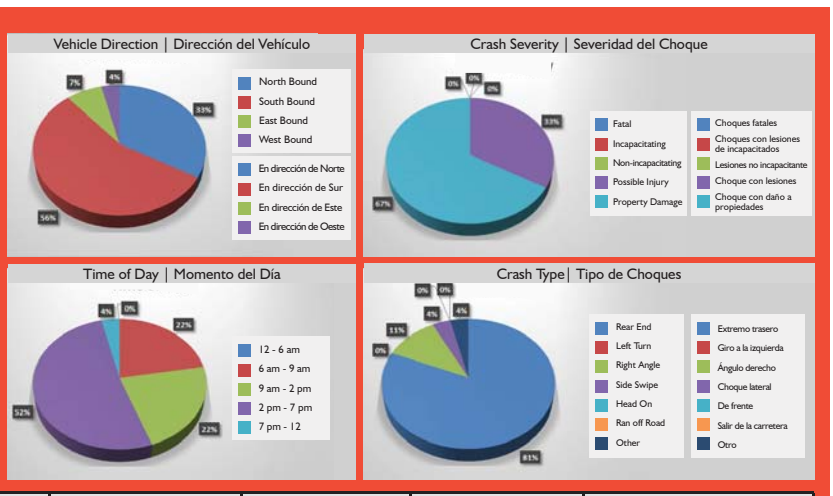
Crashes - Intersections | Choques - Intersección

TH 41 and Frontage/ Rail Crossing (2010-2014)



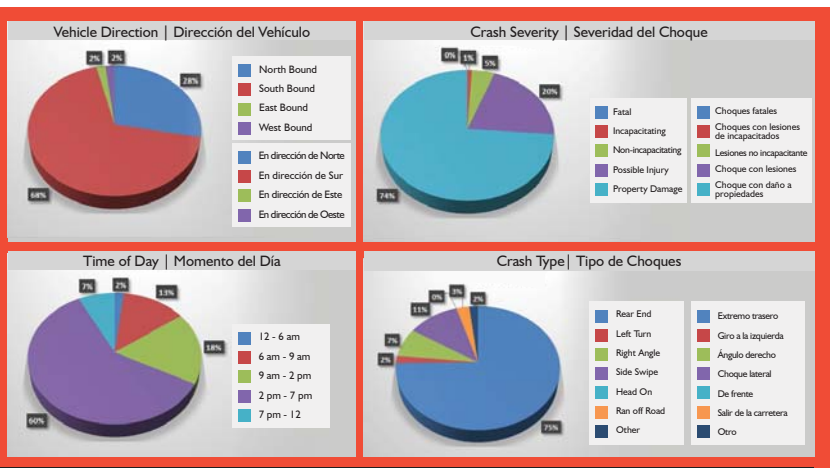
Location (Locación)	Number of Crashes (Número de choques)	Crash Rate (Tasa de choques)	Severity Rate (Tasa de severidad)	Critical Crash Rate (Tasa de choques críticos)
	17	0.49	0.72	
Statewide Average (Tasa de choques promedio a nivel del Estado)		0.26	0.42	0.5

TH 41 and Dem Con Drive (2010-2014)



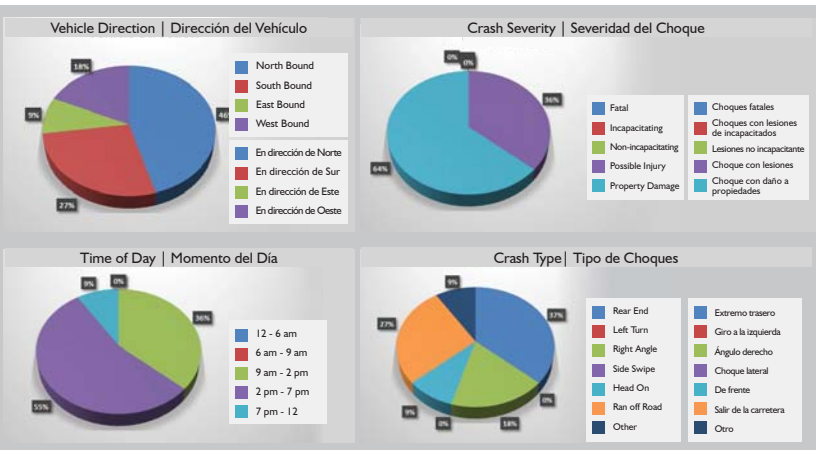
Location (Locación)	Number of Crashes (Número de choques)	Crash Rate (Tasa de choques)	Severity Rate (Tasa de severidad)	Critical Crash Rate (Tasa de choques críticos)
	27	0.78	1.04	
Statewide Average (Tasa de choques promedio a nivel del Estado)		0.41	0.59	0.71

TH 169 and TH 41 (2010-2014)



Location (Locación)	Number of Crashes (Número de choques)	Crash Rate (Tasa de choques)	Severity Rate (Tasa de severidad)	Critical Crash Rate (Tasa de choques críticos)
	107	1.46	1.94	
Statewide Average (Tasa de choques promedio a nivel del Estado)		0.41	0.59	0.62

TH 169 and CH 14 (150th Street) (2010-2014)



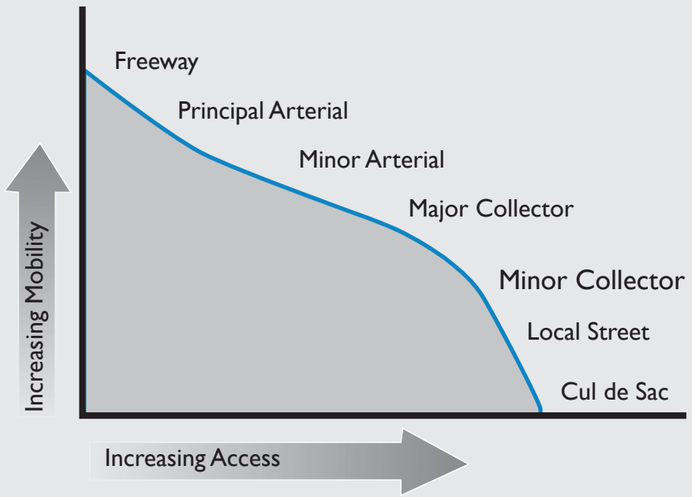
Location (Locación)	Number of Crashes (Número de choques)	Crash Rate (Tasa de choques)	Severity Rate (Tasa de severidad)	Critical Crash Rate (Tasa de choques críticos)
	11	0.21	0.28	
Statewide Average (Tasa de choques promedio a nivel del Estado)		0.26	0.42	0.45

- Crash Rate Above Statewide Average
- Tasa de Accidentes Superior a la Media Estatal

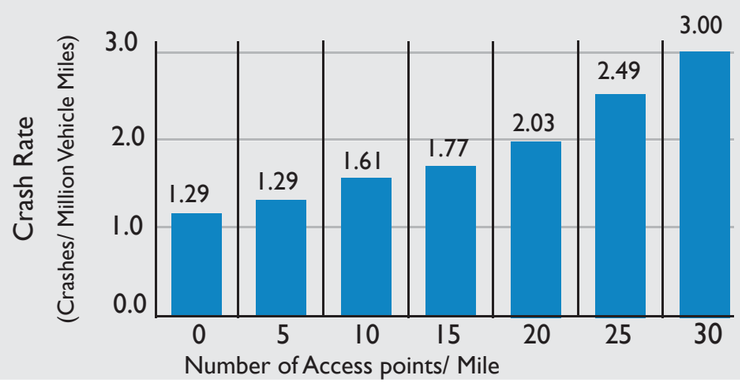
- Crash Rate Above Critical Crash Rate
- Tasa de Accidentes por Encima de Tasa de Accidentes Crítica

Access Management

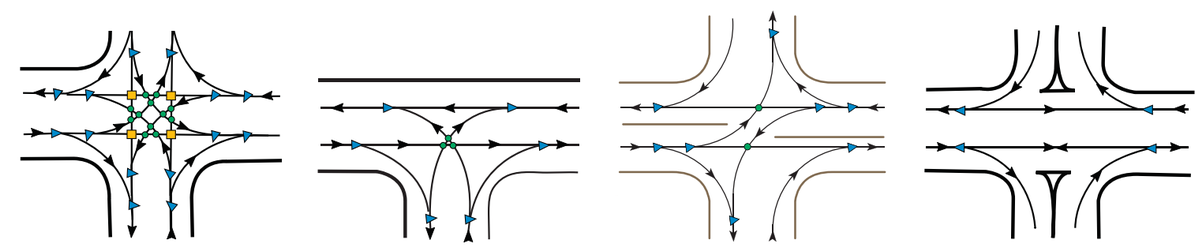
Access/ Mobility Relationship



Access/ Crash Relationship



Intersection Conflict Points



Full Access | "T" Access | 3/4 Access | Right In/ Out Access

	Crossing ▬	Turning ●	Merge/ Diverge ▶	Total	Typical Crash Rate (crashes per mil entering vehicles)
Full Access +	4	12	16	32	0.3(1)
"T Access" T	0	3	6	9	0.3(2)
3/4 Access	0	2	8	10	0.2(3)
Right In/Out Access	0	0	4	4	0.1(3)

Intersections (2 of 8) Source: 2008 MnDOT Traffic Safety Fundamental Handbook

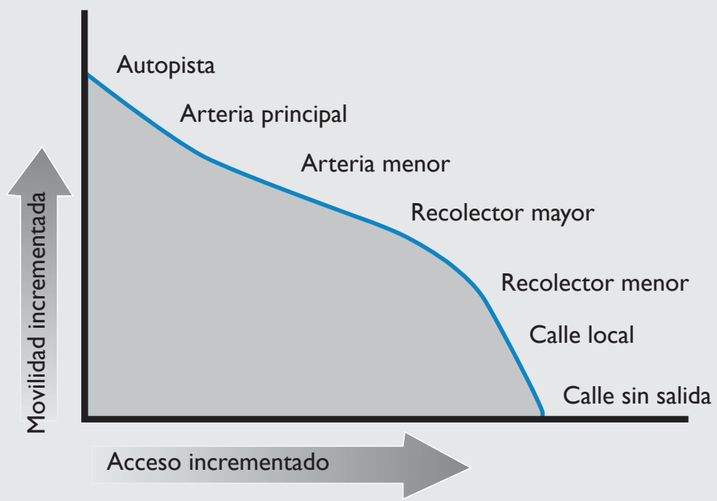
(1) 2004-2006 Minnesota TIS Crash Data

(2) Estimated based on Publication FHWA-RD-91-048

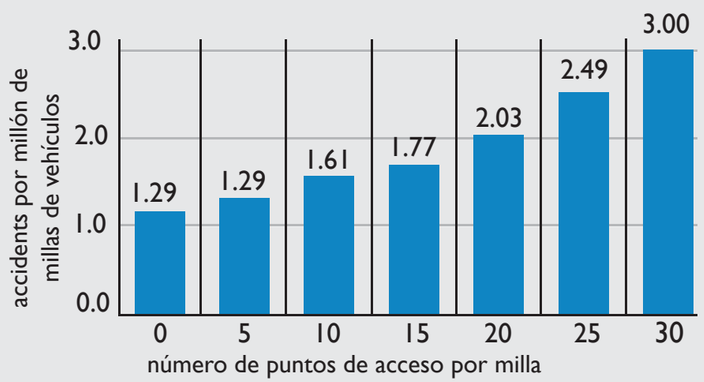
(3) Estimated based on limited sample of MnDOT Data

Gestión de Acceso

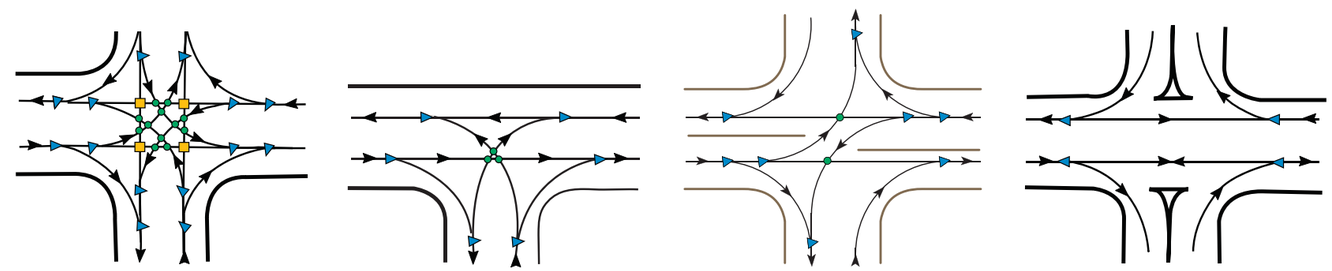
Relación de acceso/movilidad



Relación de acceso/choque



Puntos de conflicto de intersección

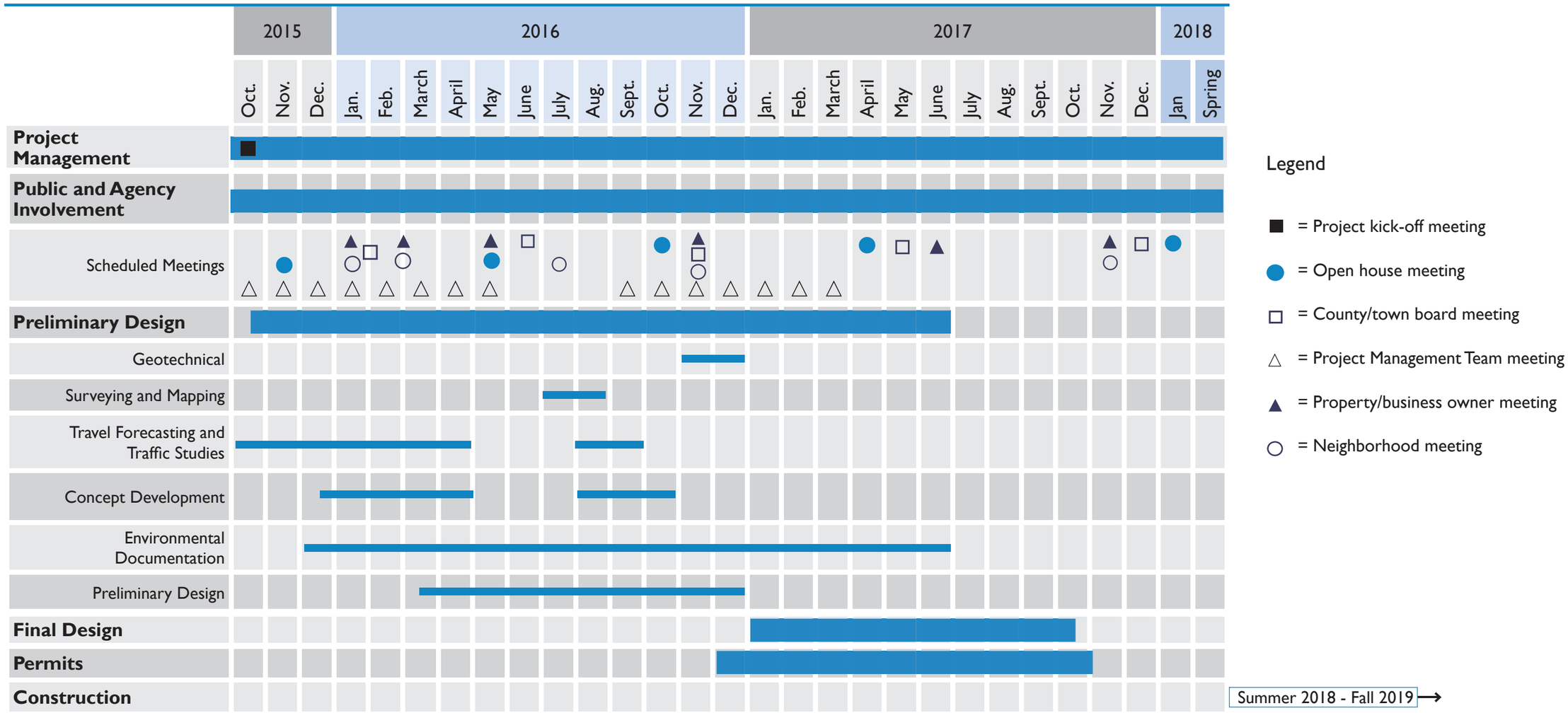


Acceso Completo | Acceso "T" | Acceso 3/4 | Derecha en / derecha de salida

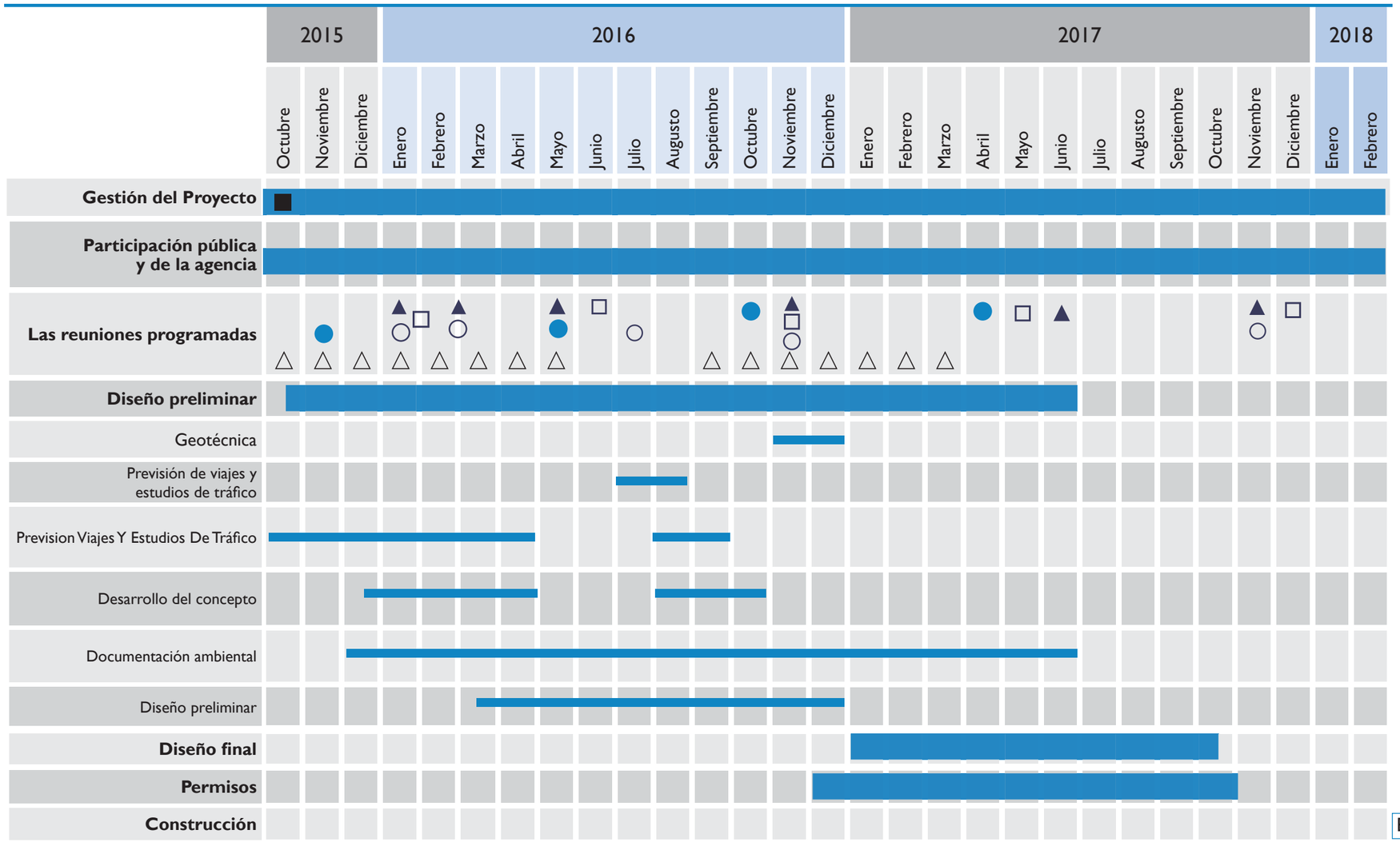
	Cruce ▬	Giro ●	Juntar/ dividir ▶	Total	Tasa de choque típico (Choques/millón de millas vehiculares)
Acceso total +	4	12	16	32	0.3(1)
Acceso "T" T	0	3	6	9	0.3(2)
Acceso 3/4	0	2	8	10	0.2(3)
Derecha en / derecha de salida	0	0	4	4	0.1(3)

Intersections (2 of 8) Source: 2008 MNDOT Traffic Saftey Fundamental Handbook
(1) 2004-2006 datos de accidentes estado
(2) Estimado sobre la publicación FHWA-RD-91-048
(3) Estimado en datos MnDOT

Project Schedule



Cronograma del Proyecto



■ = Reunione primera del proyecto

● = Reuniones de casa abierta

□ = Reuniones del Directorio del Condado

△ = Reuniones del equipo de gestión del proyecto

▲ = Reuniones de dueños de negocios y propiedades

○ = Reuniones de vecinos

Highways 169/41/78/14 Intersection Improvements

Scott

Louisville TOWNSHIP

Minnesota Department of Transportation

Jackson TOWNSHIP

Existing and 2040 Queues | Existente y 2040 Cola Máximo

AM- en la mañana

PM- de la tarde

Existing and 2040 Queues | Existente y 2040 Cola Máximo

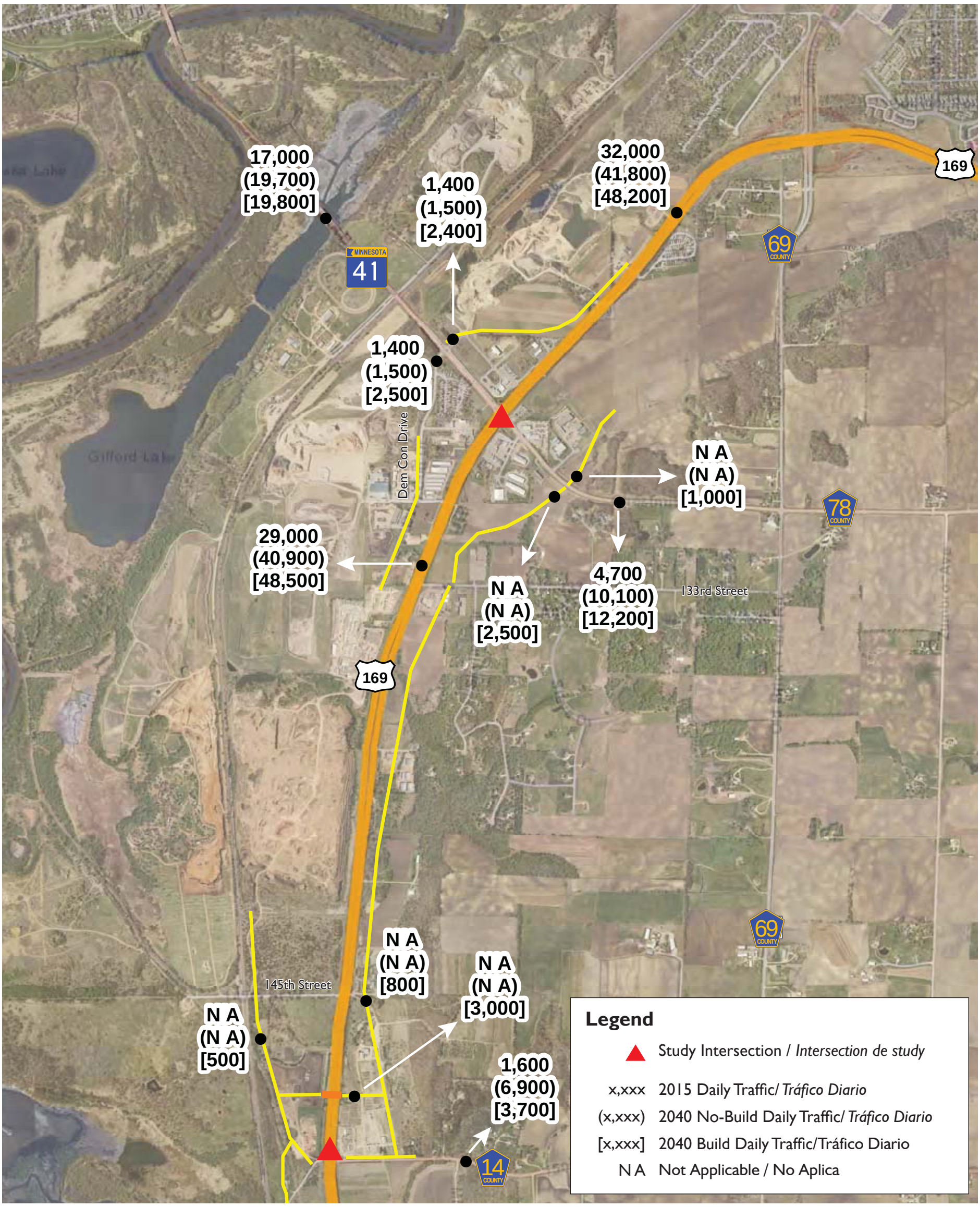
AM- en la mañana

PM- de la tarde

Highways 169/41/78/14 Intersection Improvements

Scott | Louisville TOWNSHIP | Minnesota Department of Transportation | Jackson TOWNSHIP

Existing and 2040 Traffic Volumes
Existente y 2040 Volumes de Tráfico



Highways 169/41/78/14
Intersection Improvements

Scott | Louisville TOWNSHIP | Minnesota Department of Transportation | Jackson TOWNSHIP

Levels of Service | Nivel de Servicio

TH 41& Dem Con Drive

AM Level of Service (Nivel de Servicio)		
	Existing (Existente)	Future (Futuro)
Overall (Total)	**C**	**D**
North Bound (en direction de Norte)	B	C
South Bound (en direction de Sud)	B	C
East Bound (en direction de Este)	C	E
West Bound (en direction de Oeste)	C	C

PM Level of Service (Nivel de Servicio)		
	Existing (Existente)	Future (Futuro)
Overall (Total)	B	C
North Bound (en direction de Norte)	B	C
South Bound (en direction de Sud)	B	D
East Bound (en direction de Este)	B	C
West Bound (en direction de Oeste)	B	C

TH 41 & TH 169

AM Level of Service (Nivel de Servicio)		
	Existing (Existente)	Future (Futuro)
Overall (Total)	**D**	**F**
North Bound (en direction de Norte)	D	F
South Bound (en direction de Sud)	C	D
East Bound (en direction de Este)	E	F
West Bound (en direction de Oeste)	E	E

PM Level of Service (Nivel de Servicio)		
	Existing (Existente)	Future (Futuro)
Overall (Total)	D	E
North Bound (en direction de Norte)	C	D
South Bound (en direction de Sud)	C	E
East Bound (en direction de Este)	D	F
West Bound (en direction de Oeste)	E	E

TH 41 & Emery Way

AM Level of Service (Nivel de Servicio)		
	Existing (Existente)	Future (Futuro)
Overall (Total)	**A**	**A**
North Bound (en direction de Norte)	A	A
South Bound (en direction de Sud)	A	A
West Bound (en direction de Oeste)	A	A

PM Level of Service (Nivel de Servicio)		
	Existing (Existente)	Future (Futuro)
Overall (Total)	**A**	**A**
North Bound (en direction de Norte)	A	A
South Bound (en direction de Sud)	A	A
West Bound (en direction de Oeste)	A	A

CH 14 & TH 169

AM Level of Service (Nivel de Servicio)		
	Existing (Existente)	Future (Futuro)
Overall (Total)	**A**	**D**
North Bound (en direction de Norte)	A	A
South Bound (en direction de Sud)	A	A
West Bound (en direction de Oeste)	F	F
East Bound (en direction de Este)	E	F

PM Level of Service (Nivel de Servicio)		
	Existing (Existente)	Future (Futuro)
Overall (Total)	**A**	**E**
North Bound (en direction de Norte)	A	A
South Bound (en direction de Sud)	A	A
West Bound (en direction de Oeste)	D	F
East Bound (en direction de Este)	C	F

Highways 169/41/78/14
Intersection Improvements

Scott | Louisville TOWNSHIP | Minnesota Department of Transportation | Jackson TOWNSHIP

Alternatives Evaluation Matrix

Criteria			No Build - Do Nothing: No intersection of frontage roads	Alternative A - Partial Interchange with Displaced Left Turn and frontage roads in NW, SW and SE quadrants	Alternative B - Diamond with Loop with frontage roads in NW, SW and SE quadrants	Alternative C - Tight Diamond with frontage roads in the NW, SW, and SE quadrants	Alternative D - Single Point Diamond with frontage roads in the NW, SW and SE quadrants	Alternative E - Diverging Diamond with frontage roads in the NW, SW and SE quadrants	Alternative F - Offset Single Point Diamond with frontage roads in the NW, SW and SE quadrants
Safety	Annual Crash Estimation/Percent reduction from No Build		None / —	10.1 / 67 / —	6.3 / 80 / O	6.3 / 80 / O	4.0 / 87 / O/+	2.8 / 91 / +	4.0 / 87 / O/+
	Total Conflict Points		32 / —	21 / O	22 / O	26 / —	20 / +	14 / +	32 / —
	Access Points Modified[1]		0 / —	6-10 / O	10 / +	10 / +	10 / +	10 / +	10 / +
Intersection Mobility[2]	TH 169/TH 41	LOS (AM/PM)	F / E / —	D / B / O	B / B / +	B / B / +	B / B / +	B / B / +	C / B / +
		Total Delay (seconds)	103.2 / 67.8	< 40	< 20	< 20	< 20	< 20	< 22
		Highest V/C Ratio (AM/PM)	1.07 / 0.98	0.77 / 0.55	0.48 / 0.50	0.46 / 0.48	0.55 / 0.49	0.50 / 0.42	0.67 / 0.56
	TH 169/TH 41 Reserve Capacity - assumes 15 percent additional traffic	LOS (AM/PM)	Does not Exist - No reserve to test / —	F / B / —	D / C / O	C / B / +	C / B / +	B / B / +	C / B / +
		Total Delay (seconds)	115.9 / 89.3	89.5 / 19.6	51.1 / 20.6	22.7 / 17.6	22.2 / 16.9	15.9 / 13.2	Assumed similar to Alt D
	TH 41/Dem Con[3,4] Anchor/Bryan Open	LOS (AM/PM)	D / C / O	B / B / +	B / B / +	B / B / +	B / B / +	B / B / +	B / B / +
		Total Delay (seconds)	< 43 / < 26	< 16 / < 14	< 19 / < 14	< 16 / < 13	< 20 / < 15	< 14 / < 11	< 16 / < 11
	TH 41/Dem Con Anchor/Bryan Closed	LOS (AM/PM)	D / C / O	B / B / +	B / B / +	B / B / +	B / B / +	B / B / +	B / B / +
	TH 41/Dem Con Anchor/Bryan Open Reserve Capacity - assumes 15 percent additional traffic	LOS (AM/PM)	E / D / —	C / B / +	C / B / +	C / B / +	C / B / +	B / B / +	C / B / +
		Total Delay (seconds)	57.4 / 38.8	< 23 / <16	< 31 / < 17	< 22 / < 16	24 / < 18	< 18 / < 14	Assumed similar to Alt D
Mainline Mobility	Travel Times/Speed on TH 169 and TH 41		Mainline operations decrease/ —	Mainline operations increase by the least amount - similar to today's mainline flow / —	Mainline operations increase / O	Mainline operations increase / O	Mainline operations increase / O	Mainline operations increase the most / +	Mainline operations increase / O
Construction	2016 Construction Costs (intersection only)		Alternative Does Not Address Purpose and Need (safety and mobility improvements). However, it will be carried forward into the federally required environmental document as a comparison for impacts againt the preferred alternative.	$20 - $24 million / +	$25 - $29 million / —	$22 - $26 million / O	$23 - $27 million / O	$21 - $25 million / O	$27.4 million / O
	2016 Construction Costs (frontage roads only) Assumes NW, SW, and SE Quadrants[5]			$2.25 - $4.15 million / O	$2.25 - $4.15 million / O	$2.25 - $4.15 million / O	$2.25 - $4.15 million / O	$2.25 - $4.15 million / O	$2.25 - $4.15 million / O
	2016 Construction Costs (total)			$22.25 - $28.15 million / +	$27.25 - $33.15 million / —	$24.25 - $30.15 million / O	$25.25 - $31.15 million / O	$23.25 - $29.15 million / O	$29.65 - $31.55 million / O
	Construction Staging Complexity			Moderate / O	High / —	Moderate / O	Moderate / O	Moderate / O	High / O
Benefit-Cost Ratio	Value of project benefits compared to project costs (all ratios are above 1)			1.87 / —	2.59 / O	2.02 / O	2.25 / O	2.79 / +	2.11 / O[6]
Right of Way - Parcels and Acres Impacted Intersection	Residential (parcels/acres)			1 / <0.1 acres	1 / <0.1 acres	0	0	0	0
	Commercial/Industrial (parcels/acres)			6 / 14.1 acres	6 / 14.5 acres	3 / 14.1 acres	3 / 14.1 acres	4 / 14.0 acres	6 / 14.6 acres
	Undeveloped (parcels/acres)			1 / 2.3 acres	3 / 2.4 acres	2 / 2.5 acres	2 / 2.5 acres	2 / 2.5 acres	2 / 2.5 acres
	Total (parcels/acres)			8 / 16.5 acres O	10 / 17.0 acres —	5 / 16.6 acres +	5 / 16.6 acres +	6 / 16.5 acres O	8 / 17.1 acres —
Right of Way - Parcels and Acres Impacted Frontage Road	Residential (parcels/acres)			0	0	0	0	0	0
	Commercial/Industrial (parcels/acres)			8 - 10 / 4.9 - 10.6 acres	8 - 10 / 4.9 - 10.6 acres	8 - 10 / 4.9 - 10.6 acres	8 - 10 / 4.9 - 10.6 acres	8 - 10 / 4.9 - 10.6 acres	8 - 10 / 4.9 - 10.6 acres
	Undeveloped (parcels/acres)			4 / 3.8 acres	4 / 3.8 acres	4 / 3.8 acres	4 / 3.8 acres	4 / 3.8 acres	4 / 3.8 acres
	Total (parcels/acres)[5]			12 - 14 / 8.7 - 14.4 acres O	12 - 14 / 8.7 - 14.4 acres O	12 - 14 / 8.7 - 14.4 acres O	12 - 14 / 8.7 - 14.4 acres O	12 - 14 / 8.7 - 14.4 acres O	12 - 14 / 8.7 - 14.4 acres O
Wetlands	Number/Acres			0 / +	0 / +	0 / +	1 / < 0.1 / O	1 / < 0.1 / O	0 / +
EJ Considerations	Community Cohesion/Circulation			Limited motorized and non-motorized travel; school bus circulation modifications / —	Better motorized and non-motorized travel; school bus circulation modifications / O	Better motorized and non-motorized travel; school bus circulation modifications / O	Better motorized travel; some non-motorized travel improved; school bus circulation modifications / O/—	Better motorized and non-motorized travel; school bus circulation modifications / O	Better motorized and non-motorized travel; school bus circulation modifications / O
Ped and Bike Accommodations	Degree Enhanced Over Existing Conditions			Limited improvement / —	Long crossing distance and loop crossing / —	Enhanced and easy to navigate / +	Enhanced, but challenging to navigate / 0	Enhanced, but longer crossing distance / 0	Enhanced and easy to navigate / +
Contamination	Intersection - Number of Sites and Type of Impact (same sites and impact type for all intersections)		Alternative Does Not Address Purpose and Need (safety and mobility improvements). However, it will be carried forward into the federally required environmental document as a comparison for impacts againt the preferred alternative.	5 sites / O	5 sites / O	5 sites / O	5 sites / O	5 sites / O	5 sites / O
	Frontage Road - Number of Sites and Types of Impacts			1 to 2 sites / O	1 to 2 sites / O	1 to 2 sites / O	1 to 2 sites / O	1 to 2 sites / O	1 to 2 sites / O
Consistency with Plans and Studies	Consistency with local, regional, state and federal plans and studies			Consistent with some and inconsistent with others / O	Consistent with some and potentially inconsistent with others / O	Consistent with some and potentially inconsistent with others / O	Consistent with some and potentially inconsistent with others / O	Consistent with some and potentially inconsistent with others / O	Consistent with some and potentially inconsistent with others / O

1. Access modifications will be necessary for a number of properties under each build alternative (exact number will depend on vertical alignment and other factors).

2. For TH 169/41 Alternatives, LOS and Delay is based on Ramp Terminal operations for all intersections included for that alternative.

3. For TH 41 at Dem Con, the No Build delays would be higher however the eastbound queue extends through the adjacent Rail Frontage intersection and delay is incurred at that intersection.

4. For full build alternatives, the base information presented above assumes all land uses north of 133rd Street on the west side of TH 169 would use Dem Con Drive to access TH 41 and TH 169. All other access locations south of 133rd would maintain direct access to TH 169.

5. Does not include right of way for ponding on frontage roads or the need for noise walls.

6. Operations assumed similar to Alternative D

Matriz de Evalución de Alternativas

		No construir - no hacer nada: Sin intersección de caminos de fachada	Alternativa A – Intercambiador parcial con un Giro a la Izquierda Desplazado y caminos de fachada en los cuadrantes NO, SO y SE.	Alternativa B – Diamante con Bucle con caminos de fachada en los cuadrantes NO, SO y SE	Alternativa C – Diamante Estrecho con caminos de fachada en los cuadrantes NO, SO y SE	Alternativa D – Diamante de un Solo Punto con caminos de fachada en los cuadrantes NO, SO y SE	Alternativa E – Diamante Divergente con caminos de fachada en los cuadrantes NO, SO y SE	Alternativa F - Compensación del intercambiador en diamante de un solo punto con caminos de fachada en los cuadrantes NO, SO y SE
Reducción de estimación/porcentaje de choques anuales si no hay construcción		0 / —	10.1 / 67 / —	6.3 / 80 / O	6.3 / 80 / O	4.0 / 87 / O+	2.8 / 91 / +	4.0 / 87 / O/+
Total de puntos de conflicto		32 / —	21 / O	22 / O	26 / —	20 / +	14 / +	32 / —
Puntos de Acceso Modificado[1]		0 / —	6-10 / O	10 / +	10 / +	10 / +	10 / +	10 / +
TH 169/TH 41	Nivel de servicio (AM/PM)	F / E / —	D / B / 0	B / B / +	B / B / +	B / B / +	B / B / +	C / B / +
	Retraso total (segundos)	103.2 / 67.8	< 40	< 20	< 20	< 20	< 20	< 22
	Más alta relación de volumen a la capacidad (AM/PM)	1.07 / 0.98	0.77 / 0.55	0.48 / 0.50	0.46 / 0.48	0.55 / 0.49	0.50 / 0.42	0.67 / 0.56
TH 169/TH 41 Capacidad de reserva asume el tráfico adicional del 15 por ciento	Nivel de servicio (AM/PM)	No existe / —	F / B / —	D / C / 0	C / B / +	C / B / +	B / B / +	C / B / +
	Retraso total (segundos)	115.9 / 89.3	89.5 / 19.6	51.1 / 20.6	22.7 / 17.6	22.2 / 16.9	15.9 / 13.2	Supone similar a la alternativa D
TH 41/Dem Con[3,4] Apertura Anchor/Bryan	Nivel de servicio (AM/PM)	D / C / O	B / B / +	B / B / +	B / B / +	B / B / +	B / B / +	B / B / +
	Retraso total (segundos)	< 43 / < 26	< 16 / < 14	< 19 / < 14	< 16 / < 13	< 20 / < 15	< 14 / < 11	< 16 / < 11
TH 41/Dem Con Cerrado Anchor/Bryan	Nivel de servicio (AM/PM)	D / C / O	B / B / +	B / B / +	B / B / +	B / B / +	B / B / +	B / B / +
TH 41/Dem Con Apertura Anchor/Bryan	Nivel de servicio (AM/PM)	E / D / —	C / B / +	C / B / +	C / B / +	C / B / +	B / B / +	C / B / +
Capacidad de reserva asume el tráfico adicional del 15 por ciento	Retraso total (segundos)	57.4 / 38.8	< 23 / <16	< 31 / < 17	< 22 / < 16	24 / < 18	< 18 / < 14	Supone similar a la alternativa D
Tiempos de viaje/velocidad en TH 169 y TH 41		Operaciones disminuyen / —	Operaciones aumentan el menos - parecida a la actual / —	Operaciones aumentan / O	Operaciones aumentan / O	Operaciones aumentan / O	Operaciones aumentan la más / +	Operaciones aumentan / O
Costos de construcción de 2016 (solamente intersección)		La alternativa no se enfoca en el propósito y necesidad (mejoras en seguridad y movilidad). Sin embargo, se llevarán adelante en el documento ambiental requerido por el gobierno federal como una comparación de impactos contra la alternativa preferida.	$20 - $24 millones / +	$25 - $29 millones / —	$22 - $26 millones / O	$23 - $27 millones / O	$21 - $25 millones / O	$27.4 millones / O
Costos de construcción de 2016 (solamente caminos de fachada) Asume los cuadrantes NO, SO y SE[5]			$2.25 - $4.15 millones / O	$2.25 - $4.15 millones / O	$2.25 - $4.15 millones / O	$2.25 - $4.15 millones / O	$2.25 - $4.15 millones / O	$2.25 - $4.15 millones / O
Costos de Construcción de 2016 (total)			$22.25 - $28.15 millones / +	$27.25 - $33.15 millones / —	$24.25 - $30.15 millones / O	$25.25 - $31.15 millones / O	$23.25 - $29.15 millones / O	$29.65 - $31.55 millones / O
Complejidad de puesta en escena de construcción			Mediano / 0	Alta / —	Mediano / 0	Mediano / 0	Mediano / 0	Alta / —
Valor de los beneficios del proyecto en comparación con los costos del proyecto (todos están por encima de 1)			1.87 / —	2.59 / O	2.02 / O	2.25 / O	2.79 / +	2.11 / O [6]
Residencial (parcelas/hectáreas)			1 / <0.1 hectáreas	1 / <0.1 hectáreas	0	0	0	0
Comercial/Industrial (parcelas/hectáreas)			6 / 14.1 hectáreas	6 / 14.5 hectáreas	3 / 14.1 hectáreas	3 / 14.1 hectáreas	4 / 14.0 hectáreas	6 / 14.6 hectáreas
Subdesarrollado (parcelas/hectáreas)			1 / 2.3 hectáreas	3 / 2.4 hectáreas	2 / 2.5 hectáreas	2 / 2.5 hectáreas	2 / 2.5 hectáreas	2 / 2.5 hectáreas
Total (parcelas/hectáreas)			8 / 16.5 hectáreas O	10 / 17.0 hectáreas —	5 / 16.6 hectáreas +	5 / 16.6 hectáreas +	6 / 16.5 hectáreas O	8 / 17.1 hectáreas —
Residencial (parcelas/hectáreas)			0	0	0	0	0	0
Comercial/Industrial (parcelas/hectáreas)			8 - 10 / 4.9 - 10.6 hectáreas	8 - 10 / 4.9 - 10.6 hectáreas	8 - 10 / 4.9 - 10.6 hectáreas	8 - 10 / 4.9 - 10.6 hectáreas	8 - 10 / 4.9 - 10.6 hectáreas	8 - 10 / 4.9 - 10.6 hectáreas
Subdesarrollado (parcelas/hectáreas)			4 / 3.8 hectáreas	4 / 3.8 hectáreas	4 / 3.8 hectáreas	4 / 3.8 hectáreas	4 / 3.8 hectáreas	4 / 3.8 hectáreas
Total (parcelas/hectáreas)[5]			12 - 14 / 8.7 - 14.4 hectáreas O	12 - 14 / 8.7 - 14.4 hectáreas O	12 - 14 / 8.7 - 14.4 hectáreas O	12 - 14 / 8.7 - 14.4 hectáreas O	12 - 14 / 8.7 - 14.4 hectáreas O	12 - 14 / 8.7 - 14.4 hectáreas O
Número/Hectáreas			0 / +	0 / +	0 / +	1 / < 0.1 / O	1 / < 0.1 / O	0 / +
Cohesión/Circulación de la Comunidad			Motorizado limitada y los viajes no motorizados; modificaciones de la circulación de autobuses escolares / —	Mejora de la circulación motorizada y no motorizada; modificaciones de la circulación de autobuses escolares / O	Mejora de la circulación motorizada y no motorizada; modificaciones de la circulación de autobuses escolares / O	Mejora de la circulación motorizada; algunas mejoras en la circulación no motorizada; modificaciones de la circulación de autobuses escolares / O/-	Mejora de la circulación motorizada y no motorizada; modificaciones de la circulación de autobuses escolares / O	Mejora de la circulación motorizada y no motorizada; modificaciones de la circulación de autobuses escolares / O
Grado de mejora sobre las condiciones existentes			Mejora limitada / —	Distancia larga de cruce y cruce con bucle / —	Mejorada y fácil de navegar / +	Mejorado, aunque complicado para navegar / 0	Mejorado, pero con distancia más larga / O	Mejorada y fácil de navegar / +
Intersección - Número de sitios y tipo de impacto (los mismos tipos de sitios e impacto para todas las intersecciones)			5 sitios / O	5 sitios / O	5 sitios / O	5 sitios / O	5 sitios / O	5 sitios / O
Camino de fachada - Número de sitios y tipos de impactos			1 to 2 sitios / O	1 to 2 sitios / O	1 to 2 sitios / O	1 to 2 sitios / O	1 to 2 sitios / O	1 to 2 sitios / O
Consistencia con estudios y planes locales, regionales, estatales y federales			Consistente con algunos e inconsistente con los demás / O	Consistente con algunos y potencialmente incompatible con los demás / O	Consistente con algunos y potencialmente incompatible con los demás / O	Consistente con algunos y potencialmente incompatible con los demás / O	Consistente con algunos y potencialmente incompatible con los demás / O	Consistente con algunos y potencialmente incompatible con los demás / O

1. Serán necesarias modificaciones de acceso para un número de propiedades bajo cada alternativa de construcción (el número exacto dependerá de la alineación vertical y otros factores).

2. Para las alternativas TH 169/41, el LOS y la Espera se basan en las operaciones de la Terminal de Rampa para todas las intersecciones incluidas para dicha alternativa.

3. Para la TH 41 en Dem Con, las demoras por no construcción serían mayores, sin embargo la cola del tráfico hacia el este se extiende a través de la intersección de carril de fachada adyacente y la espera se incurre en esa intersección, sin embargo las filas reportadas son por dicha intersección.

4. Para las alternativas de construcción, la información base presentada anteriormente asume todos los usos de tierra al norte de la Calle 133 en el lado oeste de la TH 169 se usará la Dem Con Drive para acceder a la TH 41 y TH 169. Todas las otras locaciones del sur de acceso de la 133 deben mantener acceso directo a TH 169.

5. No incluye el derecho de vía para charcos o la necesidad de paredes de ruido. Los costos de construcción se están actualizando.

6. Operaciones asumieron similar a la alternativa D

Other Alternatives Analyzed | Otras alternativas analizadas

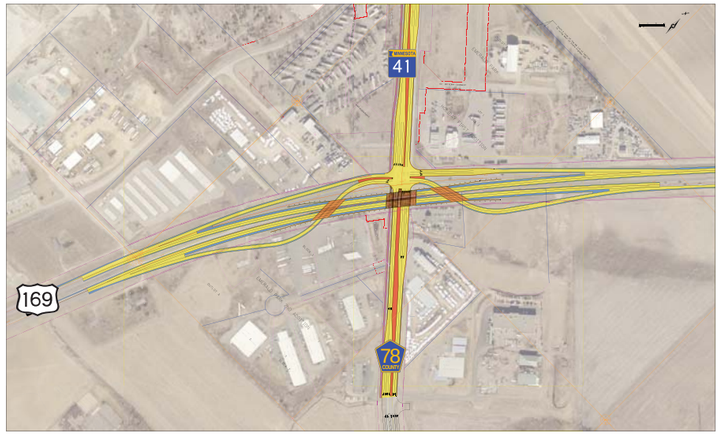
Alternative A - Partial interchange with displaced left turn
Alternativa A - Intercambiador parcial con un Giro a la Izquierda Desplazado

Alternative B - Diamond interchange with southeast loop
Alternativa B - Diamante con Bucle

Alternative C - Tight diamond interchange
Alternativa C - Diamante Estrecho

Alternative D - Single point interchange
Alternativa D - Diamante de un Solo Punto

Alternative F - Off-set single point interchange
Alternativa F - Compensación del Intercambiador en Diamante de un Solo Punto



Noise Evaluation Process

State and Federal Highway Noise Process

1. Identify land uses along the corridor
2. Using MINNOISE, model loudest hour traffic noise levels:
   - Existing conditions
   - No-build: design year
   - Build: design year
3. Compare design year noise levels to noise standards to determine if thresholds are reached or if there is an increase of 5 dBA or more.
4. Using MINNOISE, model potential noise barriers along the corridor for receptors that approach or exceed noise standards
   - Determine if noise barriers are feasible
     - One receptor per barrier must receive a 7 dBA reduction
     - Maximum barrier height to be studied is 20 feet
     - Review constructability, safety, topography, drainage, utilities, maintenance and other issues
   - Determine if noise barriers are reasonable
     - One receptor per barrier must meet a noise reduction of 7 dBA
     - Cost per noise barrier cannot exceed $43,500 per benefitted receptor
     - Solicit viewpoints of benefited owners/residents
5. Noise barriers that are feasible and reasonable will be put forward for benefitted property owners/residents to vote on barrier.
6. A noise barrier will be constructed as part of the project if it is feasible and reasonable unless a majority of benefitted property owners/residents vote against constructing a wall or if less than 25 percent of possible votes are received.

Definitions

dB: Decibel; a unit of sound pressure level

dBA: A weighted dB that closely represents what humans hear

L10: Sound level exceeded 10 percent of the time

MINNOISE: MnDOT's computer model for developing traffic noise levels. This is the only model approved for use in Minnesota.

Receptor: An outdoor place where frequent human use occurs and a lowered noise level may be of benefit. Receptors take into consideration sound that is heard at human ear height (approximately 5 feet off of the ground).

State Noise Standards

Land Use	Threshold, dBA			
	Daytime 7 am to 10 pm		Nighttime 10 pm to 7 am	
	L10	L50	L10	L50
Residential	65	60	55	50
Commercial	70	65	70	65
Industrial	80	75	80	75

Federal Noise Standards

Land Use	L10 Threshold, dBA	L10 Approach Level, dBA
Residential	70	69
Commercial	75	74

Proceso de Evaluación de Ruido

Proceso de ruido para la carretera estatal y federal

1. Identificar los usos del suelo en el corredor
2. Usando MINNOISE, modelar los niveles de ruido de tráfico en las horas más altas:
   - Condiciones existentes
   - Sin construcción: año de diseño
   - Construcción: año de diseño
3. Comparar los niveles de ruido del año del diseño según los estándares de ruido para determinar si se alcanzaron los umbralos o si hay un aumento de 5dBA o más.
4. Usando MINNOISE, modelar las barreras de ruido potenciales a lo largo del corredor para receptores que se acercan o exceden los estándares de ruido
   - Determinar si las barreras de ruido son factibles
     - Un receptor por barrera debe recibir una reducción de 7 dBA
     - La máxima altura de barrera que se estudiará es 20 pies
     - Revisar constructibilidad, seguridad, topografía, drenaje, servicios públicos, mantenimiento y otras cuestiones
   - Determinar si las barreras de ruido son razonables
     - Un receptor por barrera debe cumplir con una reducción de ruido de 7 dBA
     - El costo por barrera de ruido no debe exceder los $43.500 por receptor beneficiario
     - Solicitar puntos de vista de los dueños beneficiados
5. Las barreras de ruido que sean factibles y razonables se pondrán en marcha para que los propietarios/residentes de las propiedades beneficiadas voten por la barrera.
6. Se construirá una barrera de ruido como parte del proyecto si es factible y razonable a menos que una mayoría de propietarios/residentes de la propiedad beneficiada voten en contra de la construcción de un muro o si se reciben menos del 25 por ciento de los posibles votos.

Definiciones

dB: Decibelios; es una unidad de nivel de presión de sonido

dBA: Un dB ponderado que representa muy de cerca lo que los seres humanos escuchan

L10: Nivel de sonido excedido el 10% del tiempo

MINNOISE: Modelo de computador de MnDOT para desarrollo de niveles de ruido de tráfico. Este es el único modelo aprobado para su uso en Minnesota.

Receptor: Un lugar al aire libre donde existe frecuente uso humano y donde un nivel de ruido bajo puede ser beneficioso. Los receptores toman en consideración el sonido que se escucha desde la altura del oído humano (aproximadamente 5 pies sobre el suelo).

Estándares de ruido Estatalas

Uso de la tierra	Umbral, dBA			
	Durante el día 7 am - 10 pm		Noche 10 pm - 7 am	
	L10	L50	L10	L50
Residencial	65	60	55	50
Comercial	70	65	70	65
Industrial	80	75	80	75

Estándares de ruido federales

Uso de la tierra	L10 Umbral	L10 Nivel de enfoque
Residencial	70 dBA	69 dBA
Comercial	75 dBA	74 dBA

Noise Analysis | Análisis de Ruido

Decibel Level Correlations

	dB levels	
Painful Acoustic Trauma	140	Shotgun Blast
Extremely Loud	130	Jet engine 100 feet away
	120	Rock concert
	110	Car horn, snowblower
Very Loud	100	Blow dryer, subway, helicopter, chain saw
	90	Motorcycle, lawn mower, convertible ride on highway
	80	Factory, noisy restaurant, vacuum, screaming child
Loud	70	Car, alarm clock, city traffic
Moderate	60	Conversation, dishwasher, moderate rainfall
Faint	50	Refrigerator
	40	
	30	Whisper, library
	20	Watch ticking

SOURCE: Decibel Comparison Website
WSB & Associates, Inc.

Correlaciones del nivel de Decibelio

	dB levels	
Doloroso trauma acústico	140	Ráfaga de la escopeta
Extremadamente ruidoso	130	Motor de jet a 100 pies de distancia, Concierto de rock, Bocina, soplador de nieve
	120	
	110	
Muy fuerte	100	Secadora con aire, metro,helicóptero, motosierra, Motocicleta, cortacésped, paseo convertible en la carretera, Fábrica, restaurante ruidoso, aspiradora, niño gritando
	90	
	80	
Moderado	70	Carro, despertador, el tráfico de la ciudad
Ruidoso	60	Conversación, lavavajillas, Lluvias moderadas
	50	
Débil	40	Refrigerador
	30	Susurro, biblioteca
	20	Tic tac del reloj

SOURCE: Decibel Comparison Website
WSB & Associates, Inc.

Existing Noise Levels and Model Validation

Location	Date	Time	L10 (dBA) Monitored	L10 (dBA) Monitored	Difference
M1	12/10/2015	7:00/7:32 AM	72.6	74.6	2.1
M2	12/10/2015	8:21/8:52 AM	76.9	75.6	-1.3
M3	12/10/2015	9:38/10:09 AM	56.8	65	8.3
M4	12/11/2015	7:07/7:38 AM	56.0	57.8	1.8
M5	12/10/2015	10:49/11:24 AM	74.3	74.7	0.5
M6	12/10/2018	12:10/12:42 PM	60.7	62.4	1.7
M7	12/10/2015	1:28/1:59 PM	52.9	55.2	2.4
M8	12/11/2015	8:28/8:59 AM	60.2	62.4	2.3
M10	12/10/2015	2:48/3:19 PM	74.8	76.8	2.0

Niveles de Ruido Existentes y Validación del Modelo

Ubicación	Fecha	Hora	L10 (dBA) monitoreado	L10 (dBA) modelado	Diferencia
M1	12/10/2015	7:00/7:32 AM	72.6	74.6	2.1
M2	12/10/2015	8:21/8:52 AM	76.9	75.6	-1.3
M3	12/10/2015	9:38/10:09 AM	56.8	65	8.3
M4	12/11/2015	7:07/7:38 AM	56.0	57.8	1.8
M5	12/10/2015	10:49/11:24 AM	74.3	74.7	0.5
M6	12/10/2018	12:10/12:42 PM	60.7	62.4	1.7
M7	12/10/2015	1:28/1:59 PM	52.9	55.2	2.4
M8	12/11/2015	8:28/8:59 AM	60.2	62.4	2.3
M10	12/10/2015	2:48/3:19 PM	74.8	76.8	2.0

Noise Receptor and Monitoring Locations

Receptor de ruido y locaciones de monitoreo

- Noise Receptor Site
- Noise Monitoring Site

- Sitio receptor del ruido
- Sitio de monitoreo del ruido

Highways 169/41/78/14
Intersection Improvements

Scott

Louisville TOWNSHIP

Minnesota Department of Transportation

Jackson TOWNSHIP

Noise Analysis

Federal Standards: Peak Noise Modeling Results (dBA)

Receptor	Land Use	Existing (2016) L_{10}	2040 No-Build Condition L_{10}	2040 Build Condition L_{10}	Difference (Existing to Build) L_{10}	Difference (2040 No Build to Build) L_{10}
R1	Commercial	68.9	70.2	70.3	1.4	0.1
R2	Residential	***74.5***	***75.8***	***76***	1.5	0.2
R3	Commercial	73.1	***74.4***	***74.4***	1.3	0
R4	Commercial	***74.6***	***75.9***	***75.1***	0.5	-0.8
R5*	Undeveloped	69.3	70.5	69.3	0	-1.2
R6	Commercial	73.1	***74.3***	73.6	0.5	-0.7
R7	Commercial	71.4	72.9	72.3	0.9	-0.6
R8	Commercial	73.4	***75.1***	73.9	0.5	-1.2
R9	Residential/comm	***72***	***73.7***	***73***	1	-0.7
R10	Industrial	72.7	74.4	74.6	1.9	0.2
R11*	Undeveloped	67.4	69.2	69.6	2.2	0.4
R12	Commercial	73.2	***75***	***75.3***	2.1	0.3
R13	Industrial	71.5	73.2	73.4	1.9	0.2
R14	Industrial	71.6	73.4	73.5	1.9	0.1
R15	Industrial	72.1	73.9	74	1.9	0.1
R16	Industrial	71.7	73.4	73.6	1.9	0.2
R17*	Undeveloped	64.3	66	66.2	1.9	0.2
R18	Industrial	68.2	69.9	70.8	2.6	0.9
R19	Commercial	73	***74.7***	***75.4***	2.4	0.7
R20	Commercial	65.8	67.6	67.7	1.9	0.1
R21	Commercial	65.4	67.2	67.4	2	0.2
R22	Residential	56.8	58.5	58.9	2.1	0.4
R23	Industrial	72.7	74.5	75.3	2.6	0.8
R24	Commercial	60.4	62.1	62.7	2.3	0.6
R25*	Undeveloped	67.2	69	69.1	1.9	0.1
R26*	Undeveloped	67.3	69.1	69.3	2	0.2
R27	Residential	57.4	59.2	59.4	2	0.2
R28	Commercial	***75***	***76.8***	***76.9***	1.9	0.1
R29	Commercial	60.2	61.9	62.1	1.9	0.2
R30*	Undeveloped	68.9	70.7	70.9	2	0.2
R31*	Undeveloped	63.1	64.8	65.1	2	0.3
R32	Commercial	59.4	61.1	61.5	2.1	0.4
R33*	Undeveloped	62.1	63.8	64.9	2.8	1.1
R34	Residential	***71.9***	***73.6***	***76***	4.1	2.4
R35*	Undeveloped	67.9	69.7	70	2.1	0.3
R36	Industrial	61.9	63.6	63.9	2	0.3
R37	Commercial	73.5	***75.1***	***76.8***	3.3	1.7
R38	Commercial	68.8	70.1	71.1	2.3	1
R39	Commercial	66.8	67.9	70.2	3.4	2.3
R40	Commercial	72.3	73.5	***75.2***	2.9	1.7
R41	Commercial	60.3	61.7	62.1	1.8	0.4
R42*	Undeveloped	66.1	67.6	68.1	2	0.5
R43	Residential	***73.5***	***74***	***74.7***	1.2	0.7
R43A	Residential	***72.2***	***72.8***	***73.4***	1.2	0.6
R44	Residential	***73.3***	***73.8***	***74.5***	1.2	0.7
R44A	Residential	***73***	***73.4***	***74.1***	1.1	0.7
R45	Residential	***71.1***	***71.7***	***72.2***	1.1	0.5
R45A	Residential	***71.8***	***72.3***	***72.8***	1	0.5
R46	Residential	***70.4***	***71.3***	***71.7***	1.3	0.4
R47	Residential	66	67.5	67.8	1.8	0.3
R48	Residential	68	***70.5***	***72***	4	1.5
R49	Residential	***69.1***	***70.2***	***70.5***	1.4	0.3
R49A	Residential	***69.4***	***70.3***	***70.8***	1.4	0.5
R50	Residential	***71.1***	***71.7***	***72.4***	1.3	0.7
R50A	Residential	***70.2***	***71***	***71.5***	1.3	0.5
R51	Residential	66.5	67.5	67.9	1.4	0.4
R51A	Residential	66.1	67.2	67.5	1.4	0.3
R52*	Undeveloped	64.8	65.2	65.8	1	0.6
R53*	Undeveloped	65.2	65.5	66.1	0.9	0.6
R54*	Undeveloped	67.4	67.6	68.5	1.1	0.9
R55	Residential	***76.3***	***77.8***	***77.9***	1.6	0.1
R56	Residential	***76.7***	***78.2***	***78.4***	1.7	0.2
R57	Residential	***73.1***	***74.6***	***74.7***	1.6	0.1
R58	Residential	68.9	***70.3***	***70.5***	1.6	0.2
R59	Residential	***73.3***	***74.8***	***72.9***	-0.4	-1.9
R60	Residential	***70.8***	***72.2***	***72.3***	1.5	0.1
R61	Residential	***72.2***	***73.6***	***73.8***	1.6	0.2
R62	Residential	***71.3***	***72.7***	***72.9***	1.6	0.2
R63	Residential	68.8	***70.2***	***70.4***	1.6	0.2
R64	Residential	***69.3***	***70.7***	***70.8***	1.5	0.1
R65	Residential	***69.5***	***70.9***	***71***	1.5	0.1
R66	Residential	67.7	***69.1***	***71.3***	3.6	2.2

* Undeveloped Land, Federal NAC Not Applicable
Bold numbers are approaching or above federal standards

State Standards: Daytime Peak Noise Modeling Results (dBA)

Receptor	Land Use	Existing (2016) L_{10}	Existing (2016) L_{50}	2040 No-Build Condition L_{10}	2040 No-Build Condition L_{50}	2040 Build Condition L_{10}	2040 Build Condition L_{50}	Difference (Existing to Build) L_{10}	Difference (Existing to Build) L_{50}	Difference (2040 No Build to Build) L_{10}	Difference (2040 No Build to Build) L_{50}
R1	Commercial	68.9	65	***70.2***	***66.8***	***70.3***	***67***	1.4	2	0.1	0.2
R2	Residential	***74.5***	***70.6***	***75.8***	***72.4***	***76***	***72.7***	1.5	2.1	0.2	0.3
R3	Commercial	***73.1***	***69.1***	***74.4***	***71***	***74.4***	***71.2***	1.3	2.1	0	0.2
R4	Commercial	***74.6***	***70.6***	***75.9***	***72.4***	***75.1***	***71.9***	0.5	1.3	-0.8	-0.5
R5*	Undeveloped	69.3	65.1	70.5	66.9	69.3	65.8	0	0.7	-1.2	-1.1
R6	Commercial	***73.1***	***69.3***	***74.3***	***71***	***73.6***	***70.8***	0.5	1.5	-0.7	-0.2
R7	Commercial	***71.4***	***67.8***	***72.9***	***69.8***	***72.3***	***69.7***	0.9	1.9	-0.6	-0.1
R8	Commercial	***73.4***	***68.9***	***75.1***	***71.3***	***73.9***	***70.7***	0.5	1.8	-1.2	-0.6
R9	Residential/comm	***72***	***67.9***	***73.7***	***70.3***	***73***	***70***	1	2.1	-0.7	-0.3
R10	Industrial	72.7	68	74.4	70.5	74.6	71.1	1.9	3.1	0.2	0.6
R11*	Undeveloped	67.4	62.5	69.2	65.1	69.6	65.7	2.2	3.2	0.4	0.6
R12	Commercial	***73.2***	***68.6***	***75***	***71.2***	***75.3***	***71.5***	2.1	2.9	0.3	0.3
R13	Industrial	71.5	67.5	73.2	70	73.4	70.3	1.9	2.8	0.2	0.3
R14	Industrial	71.6	67.6	73.4	70.1	73.5	70.3	1.9	2.7	0.1	0.2
R15	Industrial	72.1	67.9	73.9	70.4	74	70.7	1.9	2.8	0.1	0.3
R16	Industrial	71.7	67.6	73.4	70.1	73.6	70.3	1.9	2.7	0.2	0.2
R17*	Undeveloped	64.3	60.4	66	62.8	66.2	63	1.9	2.6	0.2	0.2
R18	Industrial	68.2	64.6	69.9	67	70.8	67.9	2.6	3.3	0.9	0.9
R19	Commercial	***73***	***68.1***	***74.7***	***70.6***	***75.4***	***71.7***	2.4	3.6	0.7	1.1
R20	Commercial	65.8	61.6	67.6	64.1	67.7	64.3	1.9	2.7	0.1	0.2
R21	Commercial	65.4	61.3	67.2	63.8	67.4	64	2	2.7	0.2	0.2
R22	Residential	56.8	54	58.5	56.3	58.9	56.7	2.1	2.7	0.4	0.4
R23	Industrial	72.7	67.9	74.5	70.5	75.3	71.6	2.6	3.7	0.8	1.1
R24	Commercial	60.4	57.1	62.1	59.5	62.7	60.1	2.3	3	0.6	0.6
R25*	Undeveloped	67.2	62.8	69	65.3	69.1	65.5	1.9	2.7	0.1	0.2
R26*	Undeveloped	67.3	62.8	69.1	65.4	69.3	65.6	2	2.8	0.2	0.2
R27	Residential	57.4	54.8	59.2	57	59.4	57.3	2	2.5	0.2	0.3
R28	Commercial	***75***	***69.9***	***76.8***	***72.5***	***76.9***	***72.8***	1.9	2.9	0.1	0.3
R29	Commercial	60.2	56.6	61.9	59	62.1	59.3	1.9	2.7	0.2	0.3
R30*	Undeveloped	68.9	64	70.7	66.5	70.9	66.8	2	2.8	0.2	0.3
R31*	Undeveloped	63.1	59.5	64.8	61.8	65.1	62.2	2	2.7	0.3	0.4
R32	Commercial	59.4	56.4	61.1	58.6	61.5	59.2	2.1	2.8	0.4	0.6
R33*	Undeveloped	62.1	58.7	63.8	61	64.9	62	2.8	3.3	1.1	1
R34	Residential	***71.9***	***67.6***	***73.6***	***70.1***	***76***	***72***	4.1	4.4	2.4	1.9
R35*	Undeveloped	67.9	63	69.7	65.6	70	66.1	2.1	3.1	0.3	0.5
R36	Industrial	61.9	58.6	63.6	60.8	63.9	61.4	2	2.8	0.3	0.6
R37	Commercial	***73.5***	***69.1***	***75.1***	***71.4***	***76.8***	***72.6***	3.3	3.5	1.7	1.2
R38	Commercial	68.8	***65.5***	***70.1***	***67.4***	***71.1***	***68.7***	2.3	3.2	1	1.3
R39	Commercial	66.8	63.3	67.9	***65.2***	***70.2***	***67.3***	3.4	4	2.3	2.1
R40	Commercial	***72.3***	***66.6***	***73.5***	***68.5***	***75.2***	***71.3***	2.9	4.7	1.7	2.8
R41	Commercial	60.3	57.7	61.7	59.4	62.1	60.1	1.8	2.4	0.4	0.7
R42*	Undeveloped	66.1	62.4	67.6	64.5	68.1	65.1	2	2.7	0.5	0.6
R43	Residential	***73.5***	***68.6***	***74***	***69.5***	***74.7***	***70.2***	1.2	1.6	0.7	0.7
R43A	Residential	***72.2***	***68***	***72.8***	***69.1***	***73.4***	***69.7***	1.2	1.7	0.6	0.6
R44	Residential	***73.3***	***68.2***	***73.8***	***68.9***	***74.5***	***69.6***	1.2	1.4	0.7	0.7
R44A	Residential	***73***	***68***	***73.4***	***68.8***	***74.1***	***69.5***	1.1	1.5	0.7	0.7
R45	Residential	***71.1***	***66.9***	***71.7***	***68***	***72.2***	***68.5***	1.1	1.6	0.5	0.5
R45A	Residential	***71.8***	***67.3***	***72.3***	***68.2***	***72.8***	***68.8***	1	1.5	0.5	0.6
R46	Residential	***70.4***	***66.5***	***71.3***	***67.7***	***71.7***	***68.2***	1.3	1.7	0.4	0.5
R47	Residential	***66***	***63.3***	***67.5***	***65***	***67.8***	***65.4***	1.8	2.1	0.3	0.4
R48	Residential	***68***	***60.7***	***70.5***	***63.5***	***72***	***65.5***	4	4.8	1.5	2
R49	Residential	***69.1***	***66.5***	***70.2***	***68***	***70.5***	***68.4***	1.4	1.9	0.3	0.4
R49A	Residential	***69.4***	***66.7***	***70.3***	***68.1***	***70.8***	***68.6***	1.4	1.9	0.5	0.5
R50	Residential	***71.1***	***67.5***	***71.7***	***68.7***	***72.4***	***69.3***	1.3	1.8	0.7	0.6
R50A	Residential	***70.2***	***67.1***	***71***	***68.3***	***71.5***	***68.9***	1.3	1.8	0.5	0.6
R51	Residential	***66.5***	***63.9***	***67.5***	***65.3***	***67.9***	***65.8***	1.4	1.9	0.4	0.5
R51A	Residential	***66.1***	***63.7***	***67.2***	***65.2***	***67.5***	***65.6***	1.4	1.9	0.3	0.4
R52*	Undeveloped	64.8	60.8	65.2	61.6	65.8	62.2	1	1.4	0.6	0.6
R53*	Undeveloped	65.2	60.4	65.5	60.8	66.1	61.6	0.9	1.2	0.6	0.8
R54*	Undeveloped	67.4	61.9	67.6	62.3	68.5	63.3	1.1	1.4	0.9	1
R55	Residential	***76.3***	***71.8***	***77.8***	***73.9***	***77.9***	***74.1***	1.6	2.3	0.1	0.2
R56	Residential	***76.7***	***72.1***	***78.2***	***74.2***	***78.4***	***74.4***	1.7	2.3	0.2	0.2
R57	Residential	***73.1***	***69***	***74.6***	***71.1***	***74.7***	***71.2***	1.6	2.2	0.1	0.1
R58	Residential	***68.9***	***65.9***	***70.3***	***67.8***	***70.5***	***68***	1.6	2.1	0.2	0.2
R59	Residential	***73.3***	***69.6***	***74.8***	***71.6***	***72.9***	***69.8***	-0.4	0.2	-1.9	-1.8
R60	Residential	***70.8***	***67.3***	***72.2***	***69.3***	***72.3***	***69.4***	1.5	2.1	0.1	0.1
R61	Residential	***72.2***	***68.4***	***73.6***	***70.4***	***73.8***	***70.5***	1.6	2.1	0.2	0.1
R62	Residential	***71.3***	***67.7***	***72.7***	***69.7***	***72.9***	***69.8***	1.6	2.1	0.2	0.1
R63	Residential	***68.8***	***65.7***	***70.2***	***67.6***	***70.4***	***67.8***	1.6	2.1	0.2	0.2
R64	Residential	***69.3***	***66.1***	***70.7***	***68***	***70.8***	***68.2***	1.5	2.1	0.1	0.2
R65	Residential	***69.5***	***66.2***	***70.9***	***68.1***	***71***	***68.3***	1.5	2.1	0.1	0.2
R66	Residential	***67.7***	***64.8***	***69.1***	***66.6***	***71.3***	***68.8***	3.6	4	2.2	2.2

* Undeveloped Land, Federal NAC Not Applicable
Bold numbers exceed MPCA Daytime Standards

State Standards: Nighttime Peak Noise Modeling Results (dBA)

Receptor	Land Use	Existing (2016) L_{10}	Existing (2016) L_{50}	2040 No-Build Condition L_{10}	2040 No-Build Condition L_{50}	2040 Build Condition L_{10}	2040 Build Condition L_{50}	Difference (Existing to Build) L_{10}	Difference (Existing to Build) L_{50}	Difference (2040 No Build to Build) L_{10}	Difference (2040 No Build to Build) L_{50}
R1	Commercial	68.6	64.4	69.8	***66.2***	69.9	***66.4***	1.3	2	0.1	0.2
R2	Residential	***74.2***	***70***	***75.4***	***71.9***	***75.6***	***72.1***	1.4	2.1	0.2	0.2
R3	Commercial	***72.8***	***68.5***	***74.1***	***70.4***	***73.6***	***70.1***	0.8	1.6	-0.5	-0.3
R4	Commercial	***74.3***	***70***	***75.5***	***71.8***	***74.1***	***70.6***	-0.2	0.6	-1.4	-1.2
R5*	Undeveloped	68.9	64.5	70.2	66.3	68	64.3	-0.9	-0.2	-2.2	-2
R6	Commercial	***72.7***	***68.6***	***73.9***	***70.4***	***72.4***	***69.4***	-0.3	0.8	-1.5	-1
R7	Commercial	***70.4***	***66.5***	***72***	***68.7***	***71.1***	***68.3***	0.7	1.8	-0.9	-0.4
R8	Commercial	***72.2***	***67.4***	***74***	***69.8***	***72.6***	***69***	0.4	1.6	-1.4	-0.8
R9	Residential	***70.8***	***66.4***	***72.6***	***68.9***	***71.7***	***68.3***	0.9	1.9	-0.9	-0.6
R10	Industrial	71.5	66.3	73.3	68.9	73.2	69.4	1.7	3.1	-0.1	0.5
R11*	Undeveloped	66.2	60.7	68.1	63.4	68.4	64	2.2	3.3	0.3	0.6
R12	Commercial	***72***	***66.9***	***73.8***	***69.5***	***74***	***69.9***	2	3	0.2	0.4
R13	Industrial	70.3	65.9	72	68.4	72.2	68.7	1.9	2.8	0.2	0.3
R14	Industrial	70.4	66	72.2	68.5	72.3	68.7	1.9	2.7	0.1	0.2
R15	Industrial	70.9	66.3	72.7	68.8	72.8	69.1	1.9	2.8	0.1	0.3
R16	Industrial	70.4	65.9	72.2	68.5	72.4	68.7	2	2.8	0.2	0.2
R17*	Undeveloped	63	58.7	64.8	61.2	65	61.5	2	2.8	0.2	0.3
R18	Industrial	66.9	63	68.6	65.4	69.6	66.4	2.7	3.4	1	1
R19	Commercial	***71.5***	***66.5***	***73.3***	***69.1***	***74.1***	***70.1***	2.6	3.6	0.8	1
R20	Commercial	64.4	60	66.2	62.5	66.4	62.8	2	2.8	0.2	0.3
R21	Commercial	64.1	59.7	65.8	62.2	66	62.5	1.9	2.8	0.2	0.3
R22	Residential	***55.5***	***52.5***	***57.2***	***54.8***	***57.5***	***55.2***	2	2.7	0.3	0.4
R23	Industrial	71.3	66.4	73.1	68.9	73.9	70.1	2.6	3.7	0.8	1.2
R24	Commercial	59	55.6	60.8	58	61.3	58.6	2.3	3	0.5	0.6
R25*	Undeveloped	65.8	61.2	67.6	63.7	67.8	64	2	2.8	0.2	0.3
R26*	Undeveloped	65.9	61.2	67.7	63.8	67.9	64.1	2	2.9	0.2	0.3
R27	Residential	***56.1***	***53.3***	***57.9***	***55.6***	***58.1***	***55.8***	2	2.5	0.2	0.2
R28	Commercial	***73.5***	***68.3***	***75.3***	***70.9***	***75.5***	***71.2***	2	2.9	0.2	0.3
R29	Commercial	58.5	55.2	60.3	57.5	60.5	57.8	2	2.6	0.2	0.3
R30*	Undeveloped	67.5	62.4	69.3	65	69.5	65.3	2	2.9	0.2	0.3
R31*	Undeveloped	61.7	57.9	63.5	60.3	63.7	60.6	2	2.7	0.2	0.3
R32	Commercial	58	54.9	59.8	57.2	60.1	57.6	2.1	2.7	0.3	0.4
R33*	Undeveloped	60.9	57.1	62.6	59.5	63.5	60.4	2.6	3.3	0.9	0.9
R34	Residential	***70.7***	***66***	***72.5***	***68.5***	***74.6***	***70.4***	3.9	4.4	2.1	1.9
R35*	Undeveloped	66.5	61.5	68.3	64.1	68.5	64.4	2	2.9	0.2	0.3
R36	Industrial	60.7	57.2	62.3	59.5	62.5	59.8	1.8	2.6	0.2	0.3
R37	Commercial	***72.2***	***67.8***	***73.9***	***70.1***	***75.1***	***70.9***	2.9	3.1	1.2	0.8
R38	Commercial	68.1	64.3	69.3	***66.3***	69.9	***67.1***	1.8	2.8	0.6	0.8
R39	Commercial	65.6	62.3	66.9	64.2	68.6	***65.7***	3	3.4	1.7	1.5
R40	Commercial	***71.3***	***65.6***	***72.7***	***67.6***	***73.8***	***69.5***	2.5	3.9	1.1	1.9
R41	Commercial	59.9	57	61.3	58.8	60.8	58.7	0.9	1.7	-0.5	-0.1
R42*	Undeveloped	66	62.1	67.4	64.1	67.7	64.4	1.7	2.3	0.3	0.3
R43	Residential	***73***	***68***	***74.2***	***69.7***	***74.1***	***69.4***	1.1	1.4	-0.1	-0.3
R43A	Residential	***71.7***	***67.4***	***72.8***	***69.1***	***72.8***	***68.8***	1.1	1.4	0	-0.3
R44	Residential	***72.9***	***67.6***	***74.1***	***69.3***	***73.9***	***68.9***	1	1.3	-0.2	-0.4
R44A	Residential	***72.5***	***67.5***	***73.7***	***69.2***	***73.5***	***68.7***	1	1.2	-0.2	-0.5
R45	Residential	***70.5***	***66.3***	***71.7***	***68***	***71.6***	***67.7***	1.1	1.4	-0.1	-0.3
R45A	Residential	***71.3***	***66.7***	***72.4***	***68.4***	***72.3***	***68.1***	1	1.4	-0.1	-0.3
R46	Residential	***69.8***	***65.8***	***71.2***	***67.6***	***71***	***67.3***	1.2	1.5	-0.2	-0.3
R47	Residential	***65.3***	***62.5***	***66.9***	***64.4***	***66.8***	***64.3***	1.5	1.8	-0.1	-0.1
R48	Residential	***66.8***	***59.4***	***69.3***	***62.1***	***70.4***	***63.5***	3.6	4.1	1.1	1.4
R49	Residential	***68.4***	***65.7***	***69.7***	***67.4***	***69.5***	***67.3***	1.1	1.6	-0.2	-0.1
R49A	Residential	***68.7***	***65.9***	***70***	***67.6***	***69.9***	***67.5***	1.2	1.6	-0.1	-0.1
R50	Residential	***70.5***	***66.8***	***71.7***	***68.5***	***71.6***	***68.3***	1.1	1.5	-0.1	-0.2
R50A	Residential	***69.6***	***66.4***	***70.8***	***68.1***	***70.7***	***67.9***	1.1	1.5	-0.1	-0.2
R51	Residential	***65.9***	***63.1***	***67.2***	***64.9***	***67***	***64.7***	1.1	1.6	-0.2	-0.2
R51A	Residential	***65.4***	***62.8***	***66.8***	***64.6***	***66.6***	***64.5***	1.2	1.7	-0.2	-0.1
R52*	Undeveloped	64.3	60.3	65.3	61.8	65.2	61.5	0.9	1.2	-0.1	-0.3
R53*	Undeveloped	64.8	59.9	65.7	61.3	65.6	61.1	0.8	1.2	-0.1	-0.2
R54*	Undeveloped	66.9	61.5	68	63	68	62.8	1.1	1.3	0	-0.2
R55	Residential	***76.1***	***71.4***	***77.5***	***73.4***	***77.6***	***73.6***	1.5	2.2	0.1	0.2
R56	Residential	***76.5***	***71.7***	***78***	***73.7***	***78.1***	***73.9***	1.6	2.2	0.1	0.2
R57	Residential	***72.9***	***68.6***	***74.3***	***70.6***	***74.4***	***70.8***	1.5	2.2	0.1	0.2
R58	Residential	***68.7***	***65.5***	***70.1***	***67.4***	***70.2***	***67.5***	1.5	2	0.1	0.1
R59	Residential	***73.1***	***69.2***	***74.5***	***71.1***	***72.6***	***69.3***	-0.5	0.1	-1.9	-1.8
R60	Residential	***70.6***	***66.9***	***72***	***68.8***	***72.1***	***68.9***	1.5	2	0.1	0.1
R61	Residential	***72***	***67.9***	***73.4***	***69.9***	***73.5***	***70***	1.5	2.1	0.1	0.1
R62	Residential	***71.1***	***67.3***	***72.5***	***69.2***	***72.6***	***69.3***	1.5	2	0.1	0.1
R63	Residential	***68.6***	***65.3***	***70***	***67.2***	***70.1***	***67.3***	1.5	2	0.1	0.1
R64	Residential	***69.1***	***65.7***	***70.4***	***67.5***	***70.5***	***67.7***	1.4	2	0.1	0.2
R65	Residential	***69.3***	***65.8***	***70.6***	***67.7***	***70.8***	***67.8***	1.5	2	0.2	0.1
R66	Residential	***67.5***	***64.3***	***68.9***	***66.2***	***71***	***68.3***	3.5	4	2.1	2.1

* Undeveloped Land, Federal NAC Not Applicable
Bold numbers exceed MPCA Nighttime Standards

Highways 169/41/78/14 Intersection Improvements

Scott

Louisville TOWNSHIP

Minnesota Department of Transportation

Jackson TOWNSHIP

Análisis de Ruido

Estándares de ruido federales:
Resultados de modelado de picos de ruido (dBA)

Receptor	Zonificación	Existencia (2016) L_{10}	2040 No construcción L_{10}	Construcción 2040 L_{10}	La diferencia entre los existentes (2016) y Construcción 2040 L_{10}	La diferencia entre la No Construcción 2040 y Construcción 2040 L_{10}
R1	Comercial	68.9	70.2	70.3	1.4	0.1
R2	Residencial	**74.5**	**75.8**	**76**	1.5	0.2
R3	Comercial	73.1	**74.4**	**74.4**	1.3	0
R4	Comercial	**74.6**	**75.9**	**75.1**	0.5	-0.8
R5*	Subdesarrollado	69.3	70.5	69.3	0	-1.2
R6	Comercial	73.1	**74.3**	73.6	0.5	-0.7
R7	Comercial	71.4	72.9	72.3	0.9	-0.6
R8	Comercial	73.4	**75.1**	73.9	0.5	-1.2
R9	Residencial/comercial	**72**	**73.7**	**73**	1	-0.7
R10	Industrial	72.7	74.4	74.6	1.9	0.2
R11*	Subdesarrollado	67.4	69.2	69.6	2.2	0.4
R12	Comercial	73.2	**75**	**75.3**	2.1	0.3
R13	Industrial	71.5	73.2	73.4	1.9	0.2
R14	Industrial	71.6	73.4	73.5	1.9	0.1
R15	Industrial	72.1	73.9	74	1.9	0.1
R16	Industrial	71.7	73.4	73.6	1.9	0.2
R17*	Subdesarrollado	64.3	66	66.2	1.9	0.2
R18	Industrial	68.2	69.9	70.8	2.6	0.9
R19	Comercial	73	**74.7**	**75.4**	2.4	0.7
R20	Comercial	65.8	67.6	67.7	1.9	0.1
R21	Comercial	65.4	67.2	67.4	2	0.2
R22	Residencial	56.8	58.5	58.9	2.1	0.4
R23	Industrial	72.7	74.5	75.3	2.6	0.8
R24	Comercial	60.4	62.1	62.7	2.3	0.6
R25*	Subdesarrollado	67.2	69	69.1	1.9	0.1
R26*	Subdesarrollado	67.3	69.1	69.3	2	0.2
R27	Residencial	57.4	59.2	59.4	2	0.2
R28	Comercial	**75**	**76.8**	**76.9**	1.9	0.1
R29	Comercial	60.2	61.9	62.1	1.9	0.2
R30*	Subdesarrollado	68.9	70.7	70.9	2	0.2
R31*	Subdesarrollado	63.1	64.8	65.1	2	0.3
R32	Comercial	59.4	61.1	61.5	2.1	0.4
R33*	Subdesarrollado	62.1	63.8	64.9	2.8	1.1
R34	Residencial	**71.9**	**73.6**	**76**	4.1	2.4
R35*	Subdesarrollado	67.9	69.7	70	2.1	0.3
R36	Industrial	61.9	63.6	63.9	2	0.3
R37	Comercial	73.5	**75.1**	**76.8**	3.3	1.7
R38	Comercial	68.8	70.1	71.1	2.3	1
R39	Comercial	66.8	67.9	70.2	3.4	2.3
R40	Comercial	72.3	73.5	**75.2**	2.9	1.7
R41	Comercial	60.3	61.7	62.1	1.8	0.4
R42*	Subdesarrollado	66.1	67.6	68.1	2	0.5
R43	Residencial	**73.5**	**74**	**74.7**	1.2	0.7
R43A	Residencial	**72.2**	**72.8**	**73.4**	1.2	0.6
R44	Residencial	**73.3**	**73.8**	**74.5**	1.2	0.7
R44A	Residencial	**73**	**73.4**	**74.1**	1.1	0.7
R45	Residencial	**71.1**	**71.7**	**72.2**	1.1	0.5
R45A	Residencial	**71.8**	**72.3**	**72.8**	1	0.5
R46	Residencial	**70.4**	**71.3**	**71.7**	1.3	0.4
R47	Residencial	66	67.5	67.8	1.8	0.3
R48	Residencial	68	**70.5**	**72**	4	1.5
R49	Residencial	**69.1**	**70.2**	**70.5**	1.4	0.3
R49A	Residencial	**69.4**	**70.3**	**70.8**	1.4	0.5
R50	Residencial	**71.1**	**71.7**	**72.4**	1.3	0.7
R50A	Residencial	**70.2**	**71**	**71.5**	1.3	0.5
R51	Residencial	66.5	67.5	67.9	1.4	0.4
R51A	Residencial	66.1	67.2	67.5	1.4	0.3
R52*	Subdesarrollado	64.8	65.2	65.8	1	0.6
R53*	Subdesarrollado	65.2	65.5	66.1	0.9	0.6
R54*	Subdesarrollado	67.4	67.6	68.5	1.1	0.9
R55	Residencial	**76.3**	**77.8**	**77.9**	1.6	0.1
R56	Residencial	**76.7**	**78.2**	**78.4**	1.7	0.2
R57	Residencial	**73.1**	**74.6**	**74.7**	1.6	0.1
R58	Residencial	68.9	**70.3**	**70.5**	1.6	0.2
R59	Residencial	**73.3**	**74.8**	**72.9**	-0.4	-1.9
R60	Residencial	**70.8**	**72.2**	**72.3**	1.5	0.1
R61	Residencial	**72.2**	**73.6**	**73.8**	1.6	0.2
R62	Residencial	**71.3**	**72.7**	**72.9**	1.6	0.2
R63	Residencial	68.8	**70.2**	**70.4**	1.6	0.2
R64	Residencial	**69.3**	**70.7**	**70.8**	1.5	0.1
R65	Residencial	**69.5**	**70.9**	**71**	1.5	0.1
R66	Residencial	67.7	**69.1**	**71.3**	3.6	2.2

* Tierra subdesarrollada, criterios de análisis de ruido Federal no aplicables

Los números en negrita se acercan o exceden los estándares federales

Estándares de ruido Estatalas:
Resultados de modelado de picos de ruido durante el día (dBA)

Receptor	Zonificación	Existencia (2016) L_{10}	Existencia (2016) L_{50}	2040 No construcción L_{10}	2040 No construcción L_{50}	Construcción 2040 L_{10}	Construcción 2040 L_{50}	La diferencia entre los existentes (2016) y Construcción 2040 L_{10}	La diferencia entre los existentes (2016) y Construcción 2040 L_{50}	La diferencia entre la No Construcción 2040 y Construcción 2040 L_{10}	La diferencia entre la No Construcción 2040 y Construcción 2040 L_{50}
R1	Comercial	68.9	65	**70.2**	**66.8**	**70.3**	**67**	1.4	2	0.1	0.2
R2	Residencial	**74.5**	**70.6**	**75.8**	**72.4**	**76**	**72.7**	1.5	2.1	0.2	0.3
R3	Comercial	**73.1**	**69.1**	**74.4**	**71**	**74.4**	**71.2**	1.3	2.1	0	0.2
R4	Comercial	**74.6**	**70.6**	**75.9**	**72.4**	**75.1**	**71.9**	0.5	1.3	-0.8	-0.5
R5*	Subdesarrollado	69.3	65.1	70.5	66.9	69.3	65.8	0	0.7	-1.2	-1.1
R6	Comercial	**73.1**	**69.3**	**74.3**	**71**	**73.6**	**70.8**	0.5	1.5	-0.7	-0.2
R7	Comercial	**71.4**	**67.8**	**72.9**	**69.8**	**72.3**	**69.7**	0.9	1.9	-0.6	-0.1
R8	Comercial	**73.4**	**68.9**	**75.1**	**71.3**	**73.9**	**70.7**	0.5	1.8	-1.2	-0.6
R9	Residencial/comercial	**72**	**67.9**	**73.7**	**70.3**	**73**	**70**	1	2.1	-0.7	-0.3
R10	Industrial	72.7	68	74.4	70.5	74.6	71.1	1.9	3.1	0.2	0.6
R11*	Subdesarrollado	67.4	62.5	69.2	65.1	69.6	65.7	2.2	3.2	0.4	0.6
R12	Comercial	**73.2**	**68.6**	**75**	**71.2**	**75.3**	**71.5**	2.1	2.9	0.3	0.3
R13	Industrial	71.5	67.5	73.2	70	73.4	70.3	1.9	2.8	0.2	0.3
R14	Industrial	71.6	67.6	73.4	70.1	73.5	70.3	1.9	2.7	0.1	0.2
R15	Industrial	72.1	67.9	73.9	70.4	74	70.7	1.9	2.8	0.1	0.3
R16	Industrial	71.7	67.6	73.4	70.1	73.6	70.3	1.9	2.7	0.2	0.2
R17*	Subdesarrollado	64.3	60.4	66	62.8	66.2	63	1.9	2.6	0.2	0.2
R18	Industrial	68.2	64.6	69.9	67	70.8	67.9	2.6	3.3	0.9	0.9
R19	Comercial	**73**	**68.1**	**74.7**	**70.6**	**75.4**	**71.7**	2.4	3.6	0.7	1.1
R20	Comercial	65.8	61.6	67.6	64.1	67.7	64.3	1.9	2.7	0.1	0.2
R21	Comercial	65.4	61.3	67.2	63.8	67.4	64	2	2.7	0.2	0.2
R22	Residencial	56.8	54	58.5	56.3	58.9	56.7	2.1	2.7	0.4	0.4
R23	Industrial	72.7	67.9	74.5	70.5	75.3	71.6	2.6	3.7	0.8	1.1
R24	Comercial	60.4	57.1	62.1	59.5	62.7	60.1	2.3	3	0.6	0.6
R25*	Subdesarrollado	67.2	62.8	69	65.3	69.1	65.5	1.9	2.7	0.1	0.2
R26*	Subdesarrollado	67.3	62.8	69.1	65.4	69.3	65.6	2	2.8	0.2	0.2
R27	Residencial	57.4	54.8	59.2	57	59.4	57.3	2	2.5	0.2	0.3
R28	Comercial	**75**	**69.9**	**76.8**	**72.5**	**76.9**	**72.8**	1.9	2.9	0.1	0.3
R29	Comercial	60.2	56.6	61.9	59	62.1	59.3	1.9	2.7	0.2	0.3
R30*	Subdesarrollado	68.9	64	70.7	66.5	70.9	66.8	2	2.8	0.2	0.3
R31*	Subdesarrollado	63.1	59.5	64.8	61.8	65.1	62.2	2	2.7	0.3	0.4
R32	Comercial	59.4	56.4	61.1	58.6	61.5	59.2	2.1	2.8	0.4	0.6
R33*	Subdesarrollado	62.1	58.7	63.8	61	64.9	62	2.8	3.3	1.1	1
R34	Residencial	**71.9**	**67.6**	**73.6**	**70.1**	**76**	**72**	4.1	4.4	2.4	1.9
R35*	Subdesarrollado	67.9	63	69.7	65.6	70	66.1	2.1	3.1	0.3	0.5
R36	Industrial	61.9	58.6	63.6	60.8	63.9	61.4	2	2.8	0.3	0.6
R37	Comercial	**73.5**	**69.1**	**75.1**	**71.4**	**76.8**	**72.6**	3.3	3.5	1.7	1.2
R38	Comercial	68.8	**65.5**	**70.1**	**67.4**	**71.1**	**68.7**	2.3	3.2	1	1.3
R39	Comercial	66.8	63.3	67.9	**65.2**	**70.2**	**67.3**	3.4	4	2.3	2.1
R40	Comercial	**72.3**	**66.6**	**73.5**	**68.5**	**75.2**	**71.3**	2.9	4.7	1.7	2.8
R41	Comercial	60.3	57.7	61.7	59.4	62.1	60.1	1.8	2.4	0.4	0.7
R42*	Subdesarrollado	66.1	62.4	67.6	64.5	68.1	65.1	2	2.7	0.5	0.6
R43	Residencial	**73.5**	**68.6**	**74**	**69.5**	**74.7**	**70.2**	1.2	1.6	0.7	0.7
R43A	Residencial	**72.2**	**68**	**72.8**	**69.1**	**73.4**	**69.7**	1.2	1.7	0.6	0.6
R44	Residencial	**73.3**	**68.2**	**73.8**	**68.9**	**74.5**	**69.6**	1.2	1.4	0.7	0.7
R44A	Residencial	**73**	**68**	**73.4**	**68.8**	**74.1**	**69.5**	1.1	1.5	0.7	0.7
R45	Residencial	**71.1**	**66.9**	**71.7**	**68**	**72.2**	**68.5**	1.1	1.6	0.5	0.5
R45A	Residencial	**71.8**	**67.3**	**72.3**	**68.2**	**72.8**	**68.8**	1	1.5	0.5	0.6
R46	Residencial	**70.4**	**66.5**	**71.3**	**67.7**	**71.7**	**68.2**	1.3	1.7	0.4	0.5
R47	Residencial	**66**	**63.3**	**67.5**	**65**	**67.8**	**65.4**	1.8	2.1	0.3	0.4
R48	Residencial	**68**	**60.7**	**70.5**	**63.5**	**72**	**65.5**	4	4.8	1.5	2
R49	Residencial	**69.1**	**66.5**	**70.2**	**68**	**70.5**	**68.4**	1.4	1.9	0.3	0.4
R49A	Residencial	**69.4**	**66.7**	**70.3**	**68.1**	**70.8**	**68.6**	1.4	1.9	0.5	0.5
R50	Residencial	**71.1**	**67.5**	**71.7**	**68.7**	**72.4**	**69.3**	1.3	1.8	0.7	0.6
R50A	Residencial	**70.2**	**67.1**	**71**	**68.3**	**71.5**	**68.9**	1.3	1.8	0.5	0.6
R51	Residencial	**66.5**	**63.9**	**67.5**	**65.3**	**67.9**	**65.8**	1.4	1.9	0.4	0.5
R51A	Residencial	**66.1**	**63.7**	**67.2**	**65.2**	**67.5**	**65.6**	1.4	1.9	0.3	0.4
R52*	Subdesarrollado	64.8	60.8	65.2	61.6	65.8	62.2	1	1.4	0.6	0.6
R53*	Subdesarrollado	65.2	60.4	65.5	60.8	66.1	61.6	0.9	1.2	0.6	0.8
R54*	Subdesarrollado	67.4	61.9	67.6	62.3	68.5	63.3	1.1	1.4	0.9	1
R55	Residencial	**76.3**	**71.8**	**77.8**	**73.9**	**77.9**	**74.1**	1.6	2.3	0.1	0.2
R56	Residencial	**76.7**	**72.1**	**78.2**	**74.2**	**78.4**	**74.4**	1.7	2.3	0.2	0.2
R57	Residencial	**73.1**	**69**	**74.6**	**71.1**	**74.7**	**71.2**	1.6	2.2	0.1	0.1
R58	Residencial	**68.9**	**65.9**	**70.3**	**67.8**	**70.5**	**68**	1.6	2.1	0.2	0.2
R59	Residencial	**73.3**	**69.6**	**74.8**	**71.6**	**72.9**	**69.8**	-0.4	0.2	-1.9	-1.8
R60	Residencial	**70.8**	**67.3**	**72.2**	**69.3**	**72.3**	**69.4**	1.5	2.1	0.1	0.1
R61	Residencial	**72.2**	**68.4**	**73.6**	**70.4**	**73.8**	**70.5**	1.6	2.1	0.2	0.1
R62	Residencial	**71.3**	**67.7**	**72.7**	**69.7**	**72.9**	**69.8**	1.6	2.1	0.2	0.1
R63	Residencial	**68.8**	**65.7**	**70.2**	**67.6**	**70.4**	**67.8**	1.6	2.1	0.2	0.2
R64	Residencial	**69.3**	**66.1**	**70.7**	**68**	**70.8**	**68.2**	1.5	2.1	0.1	0.2
R65	Residencial	**69.5**	**66.2**	**70.9**	**68.1**	**71**	**68.3**	1.5	2.1	0.1	0.2
R66	Residencial	**67.7**	**64.8**	**69.1**	**66.6**	**71.3**	**68.8**	3.6	4	2.2	2.2

* Tierra subdesarrollada, criterios de análisis de ruido Federal no aplicables

Los números en negrita exceden los estándares diurnos de la MPCA

Estándares de ruido Estatalas:
Resultados de modelado de picos de ruido durante la noche (dBA)

Receptor	Zonificación	Existencia (2016) L_{10}	Existencia (2016) L_{50}	2040 No construcción L_{10}	2040 No construcción L_{50}	Construcción 2040 L_{10}	Construcción 2040 L_{50}	La diferencia entre los existentes (2016) y No Construcción 2040 L_{10}	La diferencia entre los existentes (2016) y No Construcción 2040 L_{50}	La diferencia entre la No Construcción 2040 y Construcción 2040 L_{10}	La diferencia entre la No Construcción 2040 y Construcción 2040 L_{50}
R1	Comercial	68.6	64.4	69.8	**66.2**	69.9	**66.4**	1.3	2	0.1	0.2
R2	Residencial	**74.2**	**70**	**75.4**	**71.9**	**75.6**	**72.1**	1.4	2.1	0.2	0.2
R3	Comercial	**72.8**	**68.5**	**74.1**	**70.4**	**73.6**	**70.1**	0.8	1.6	-0.5	-0.3
R4	Comercial	**74.3**	**70**	**75.5**	**71.8**	**74.1**	**70.6**	-0.2	0.6	-1.4	-1.2
R5*	Subdesarrollado	68.9	64.5	70.2	66.3	68	64.3	-0.9	-0.2	-2.2	-2
R6	Comercial	**72.7**	**68.6**	**73.9**	**70.4**	**72.4**	**69.4**	-0.3	0.8	-1.5	-1
R7	Comercial	**70.4**	**66.5**	**72**	**68.7**	**71.1**	**68.3**	0.7	1.8	-0.9	-0.4
R8	Comercial	**72.2**	**67.4**	**74**	**69.8**	**72.6**	**69**	0.4	1.6	-1.4	-0.8
R9	Residencial	**70.8**	**66.4**	**72.6**	**68.9**	**71.7**	**68.3**	0.9	1.9	-0.9	-0.6
R10	Industrial	71.5	66.3	73.3	68.9	73.2	69.4	1.7	3.1	-0.1	0.5
R11*	Subdesarrollado	66.2	60.7	68.1	63.4	68.4	64	2.2	3.3	0.3	0.6
R12	Comercial	**72**	**66.9**	**73.8**	**69.5**	**74**	**69.9**	2	3	0.2	0.4
R13	Industrial	70.3	65.9	72	68.4	72.2	68.7	1.9	2.8	0.2	0.3
R14	Industrial	70.4	66	72.2	68.5	72.3	68.7	1.9	2.7	0.1	0.2
R15	Industrial	70.9	66.3	72.7	68.8	72.8	69.1	1.9	2.8	0.1	0.3
R16	Industrial	70.4	65.9	72.2	68.5	72.4	68.7	2	2.8	0.2	0.2
R17*	Subdesarrollado	63	58.7	64.8	61.2	65	61.5	2	2.8	0.2	0.3
R18	Industrial	66.9	63	68.6	65.4	69.6	66.4	2.7	3.4	1	1
R19	Comercial	**71.5**	**66.5**	**73.3**	**69.1**	**74.1**	**70.1**	2.6	3.6	0.8	1
R20	Comercial	64.4	60	66.2	62.5	66.4	62.8	2	2.8	0.2	0.3
R21	Comercial	64.1	59.7	65.8	62.2	66	62.5	1.9	2.8	0.2	0.3
R22	Residencial	**55.5**	**52.5**	**57.2**	**54.8**	**57.5**	**55.2**	2	2.7	0.3	0.4
R23	Industrial	71.3	66.4	73.1	68.9	73.9	70.1	2.6	3.7	0.8	1.2
R24	Comercial	59	55.6	60.8	58	61.3	58.6	2.3	3	0.5	0.6
R25*	Subdesarrollado	65.8	61.2	67.6	63.7	67.8	64	2	2.8	0.2	0.3
R26*	Subdesarrollado	65.9	61.2	67.7	63.8	67.9	64.1	2	2.9	0.2	0.3
R27	Residencial	**56.1**	**53.3**	**57.9**	**55.6**	**58.1**	**55.8**	2	2.5	0.2	0.2
R28	Comercial	**73.5**	**68.3**	**75.3**	**70.9**	**75.5**	**71.2**	2	2.9	0.2	0.3
R29	Comercial	58.5	55.2	60.3	57.5	60.5	57.8	2	2.6	0.2	0.3
R30*	Subdesarrollado	67.5	62.4	69.3	65	69.5	65.3	2	2.9	0.2	0.3
R31*	Subdesarrollado	61.7	57.9	63.5	60.3	63.7	60.6	2	2.7	0.2	0.3
R32	Comercial	58	54.9	59.8	57.2	60.1	57.6	2.1	2.7	0.3	0.4
R33*	Subdesarrollado	60.9	57.1	62.6	59.5	63.5	60.4	2.6	3.3	0.9	0.9
R34	Residencial	**70.7**	**66**	**72.5**	**68.5**	**74.6**	**70.4**	3.9	4.4	2.1	1.9
R35*	Subdesarrollado	66.5	61.5	68.3	64.1	68.5	64.4	2	2.9	0.2	0.3
R36	Industrial	60.7	57.2	62.3	59.5	62.5	59.8	1.8	2.6	0.2	0.3
R37	Comercial	**72.2**	**67.8**	**73.9**	**70.1**	**75.1**	**70.9**	2.9	3.1	1.2	0.8
R38	Comercial	68.1	64.3	69.3	**66.3**	69.9	**67.1**	1.8	2.8	0.6	0.8
R39	Comercial	65.6	62.3	66.9	64.2	68.6	**65.7**	3	3.4	1.7	1.5
R40	Comercial	**71.3**	**65.6**	**72.7**	**67.6**	**73.8**	**69.5**	2.5	3.9	1.1	1.9
R41	Comercial	59.9	57	61.3	58.8	60.8	58.7	0.9	1.7	-0.5	-0.1
R42*	Subdesarrollado	66	62.1	67.4	64.1	67.7	64.4	1.7	2.3	0.3	0.3
R43	Residencial	**73**	**68**	**74.2**	**69.7**	**74.1**	**69.4**	1.1	1.4	-0.1	-0.3
R43A	Residencial	**71.7**	**67.4**	**72.8**	**69.1**	**72.8**	**68.8**	1.1	1.4	0	-0.3
R44	Residencial	**72.9**	**67.6**	**74.1**	**69.3**	**73.9**	**68.9**	1	1.3	-0.2	-0.4
R44A	Residencial	**72.5**	**67.5**	**73.7**	**69.2**	**73.5**	**68.7**	1	1.2	-0.2	-0.5
R45	Residencial	**70.5**	**66.3**	**71.7**	**68**	**71.6**	**67.7**	1.1	1.4	-0.1	-0.3
R45A	Residencial	**71.3**	**66.7**	**72.4**	**68.4**	**72.3**	**68.1**	1	1.4	-0.1	-0.3
R46	Residencial	**69.8**	**65.8**	**71.2**	**67.6**	**71**	**67.3**	1.2	1.5	-0.2	-0.3
R47	Residencial	**65.3**	**62.5**	**66.9**	**64.4**	**66.8**	**64.3**	1.5	1.8	-0.1	-0.1
R48	Residencial	**66.8**	**59.4**	**69.3**	**62.1**	**70.4**	**63.5**	3.6	4.1	1.1	1.4
R49	Residencial	**68.4**	**65.7**	**69.7**	**67.4**	**69.5**	**67.3**	1.1	1.6	-0.2	-0.1
R49A	Residencial	**68.7**	**65.9**	**70**	**67.6**	**69.9**	**67.5**	1.2	1.6	-0.1	-0.1
R50	Residencial	**70.5**	**66.8**	**71.7**	**68.5**	**71.6**	**68.3**	1.1	1.5	-0.1	-0.2
R50A	Residencial	**69.6**	**66.4**	**70.8**	**68.1**	**70.7**	**67.9**	1.1	1.5	-0.1	-0.2
R51	Residencial	**65.9**	**63.1**	**67.2**	**64.9**	**67**	**64.7**	1.1	1.6	-0.2	-0.2
R51A	Residencial	**65.4**	**62.8**	**66.8**	**64.6**	**66.6**	**64.5**	1.2	1.7	-0.2	-0.1
R52*	Subdesarrollado	64.3	60.3	65.3	61.8	65.2	61.5	0.9	1.2	-0.1	-0.3
R53*	Subdesarrollado	64.8	59.9	65.7	61.3	65.6	61.1	0.8	1.2	-0.1	-0.2
R54*	Subdesarrollado	66.9	61.5	68	63	68	62.8	1.1	1.3	0	-0.2
R55	Residencial	**76.1**	**71.4**	**77.5**	**73.4**	**77.6**	**73.6**	1.5	2.2	0.1	0.2
R56	Residencial	**76.5**	**71.7**	**78**	**73.7**	**78.1**	**73.9**	1.6	2.2	0.1	0.2
R57	Residencial	**72.9**	**68.6**	**74.3**	**70.6**	**74.4**	**70.8**	1.5	2.2	0.1	0.2
R58	Residencial	**68.7**	**65.5**	**70.1**	**67.4**	**70.2**	**67.5**	1.5	2	0.1	0.1
R59	Residencial	**73.1**	**69.2**	**74.5**	**71.1**	**72.6**	**69.3**	-0.5	0.1	-1.9	-1.8
R60	Residencial	**70.6**	**66.9**	**72**	**68.8**	**72.1**	**68.9**	1.5	2	0.1	0.1
R61	Residencial	**72**	**67.9**	**73.4**	**69.9**	**73.5**	**70**	1.5	2.1	0.1	0.1
R62	Residencial	**71.1**	**67.3**	**72.5**	**69.2**	**72.6**	**69.3**	1.5	2	0.1	0.1
R63	Residencial	**68.6**	**65.3**	**70**	**67.2**	**70.1**	**67.3**	1.5	2	0.1	0.1
R64	Residencial	**69.1**	**65.7**	**70.4**	**67.5**	**70.5**	**67.7**	1.4	2	0.1	0.2
R65	Residencial	**69.3**	**65.8**	**70.6**	**67.7**	**70.8**	**67.8**	1.5	2	0.2	0.1
R66	Residencial	**67.5**	**64.3**	**68.9**	**66.2**	**71**	**68.3**	3.5	4	2.1	2.1

* Tierra subdesarrollada, criterios de análisis de ruido Federal no aplicables

Los números en negrita exceden los estándares nocturnos de la MPCA

Highways 169/41/78/14 Intersection Improvements

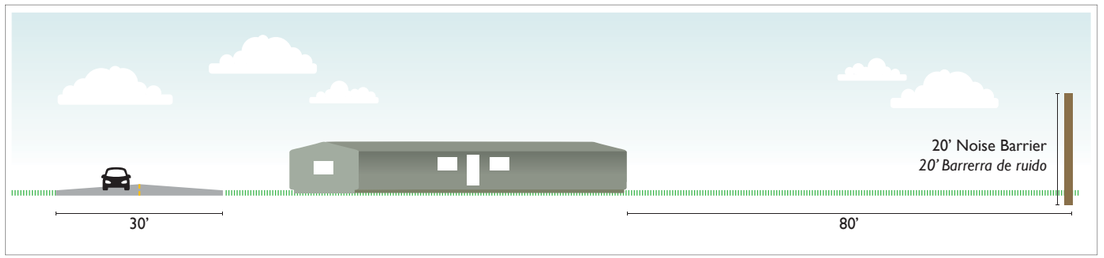
Scott

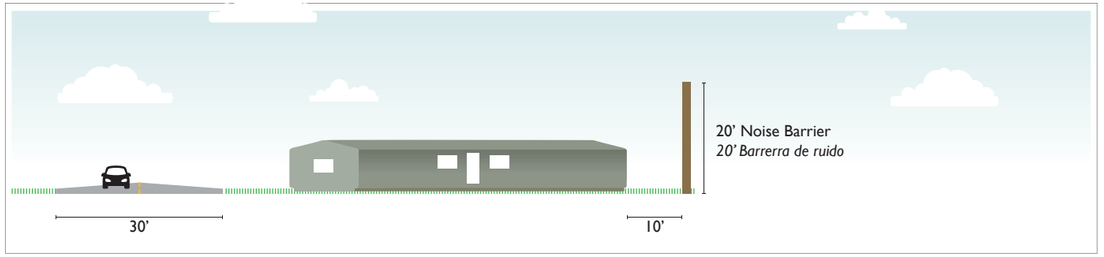
Louisville TOWNSHIP

Minnesota Department of Transportation

Jackson TOWNSHIP

Typical Noise Walls | Paredes Típicas de Ruido





Distance from homes ranges from approximately 10 feet to 80 feet.

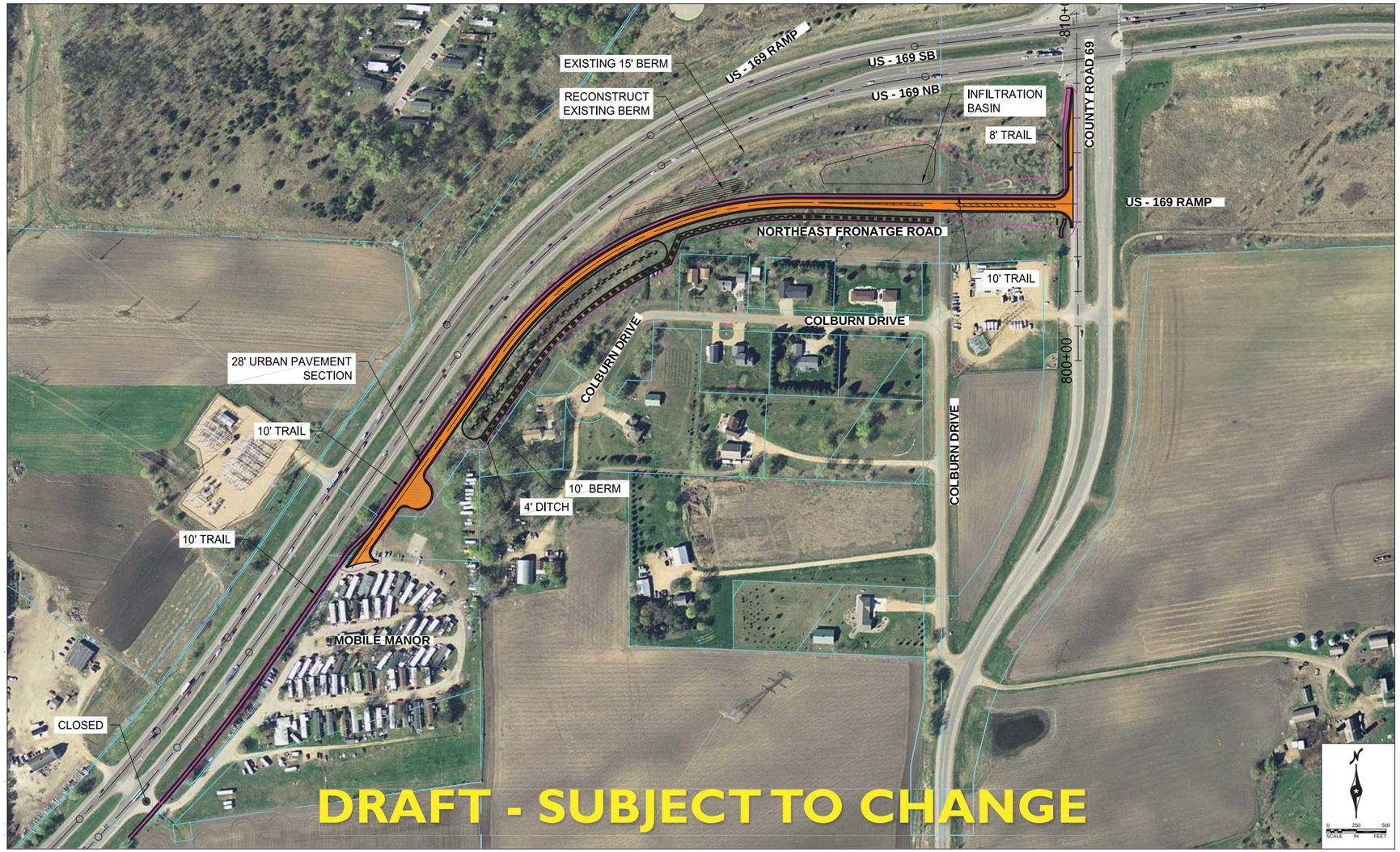
La distancia de las casa oscila entre aproximadamente 10 pies y 80 pies.

Based on voting results from affected residents and owners, a noise barrier is likely to be constructed south of Highway 41 near the Jackson Heights Neighborhood.

Basado en los resultados de las votaciones de los residentes y propietarios afectados, es probable que se construya una barrera de ruido al sur de la Autopista 41 cerca del vecindario Jackson Heights.

TH 169 Cooperative Agreement Project: Mobile Manor Access Concept 4

TH 169 proyecto de acuerdo de cooperación: acceso Mobile Manor, Concepto 4



TH 169 Cooperative Agreement Project

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Minnesota Department of Transportation

Jackson TOWNSHIP