IN COLLABORATION WITH

DeKalb County
GEORGIA

Assessment of Various Roundabout Design Options
Existing 5-Legged Intersection
Old McDonough/Thurman Road (SR 54)/Cedar Grove Road

Transportation Planning Study

FINAL REPORT DOCUMENT

November 2025

Prepared by:

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PROJECT OVERVIEW

The Metro South Community Improvement District (MSCID) sought to develop a concept based on the feasibility and operational assessment of various roundabout design options at the existing five-legged intersection of Thurman (SR 54), Cedar Grove, and Old McDonough Roads.

The intersection was identified in the MSCID's *2016 Planning Study*, the Atlanta Regional Commission-funded (ARC) *MSCID Freight Cluster Plan* as a high priority transportation need, and as a long-range transportation project in DeKalb County's *Comprehensive Transportation Plan*. The project was funded through ARC's Regional Transportation Planning Study Program (AR-038-2425) and the Metro South Community Improvement District (MSCID). In support of transportation planning, traffic operational and safety analysis, and site investigation and data collection work for the project, stakeholder and public engagement was conducted by the project team at key points in the study's development.

PROJECT CONTEXT

Thurman Road (SR 54 Connection) is on the north and south approaches of the study intersection, Cedar Grove Road is on the eastern approach, and Old McDonough Road is on the western approach. The northbound Old McDonough approach is a stop condition and at a skewed angle, with its proximity only a few feet from the study intersection. The intersection is within a quarter mile of Moreland Avenue (SR 42) and a half mile within I-285. There are more than a dozen truck terminals, warehousing, and logistics facilities as well as related service industries within a half mile of the intersection. A recently redeveloped terminal site within a few thousand feet of this intersection has been permitted by DeKalb County as a new truck terminal, which includes a truck-driving school (these facilities have been in operation since 2022). Within a half mile of this study location, a 3,000-space freight logistics center received zoning approval and a land disturbance permit in 2023.

PROJECT GOALS/OBJECTIVES

Kimley-Horn was selected to provide the feasibility study and technical analysis of converting the existing signalized intersection into a single lane roundabout. The study objectives are listed below:

- Maximize safety, connectivity, and efficiency at the five-legged intersection.
- Address existing and future needs for all users.
- Maintain consistency with the vision and goals set forth in DeKalb County's Comprehensive Transportation Plan, Unified Development Ordinance, and the Atlanta Regional Transportation Plan.
- Develop and implementation plan to include timeline, material and cost estimates, and various concept design layouts, typical sections and renderings necessary to apply for federal funds through ARC and advance to the preliminary engineering phase.

PROJECT PHASES AND SCHEDULE

The Thurman Road Roundabout Feasibility Study consisted of the following tasks:

PHASE 1

- Traffic Counts
- Environmental Screening
- Traffic Study – Existing and Proposed Conditions
- ICE Stage 1 & 2

PHASE 2

- Concept Alternative Development
- Operations & Safety Analysis
- Preferred Alternative Selection

PHASE 3

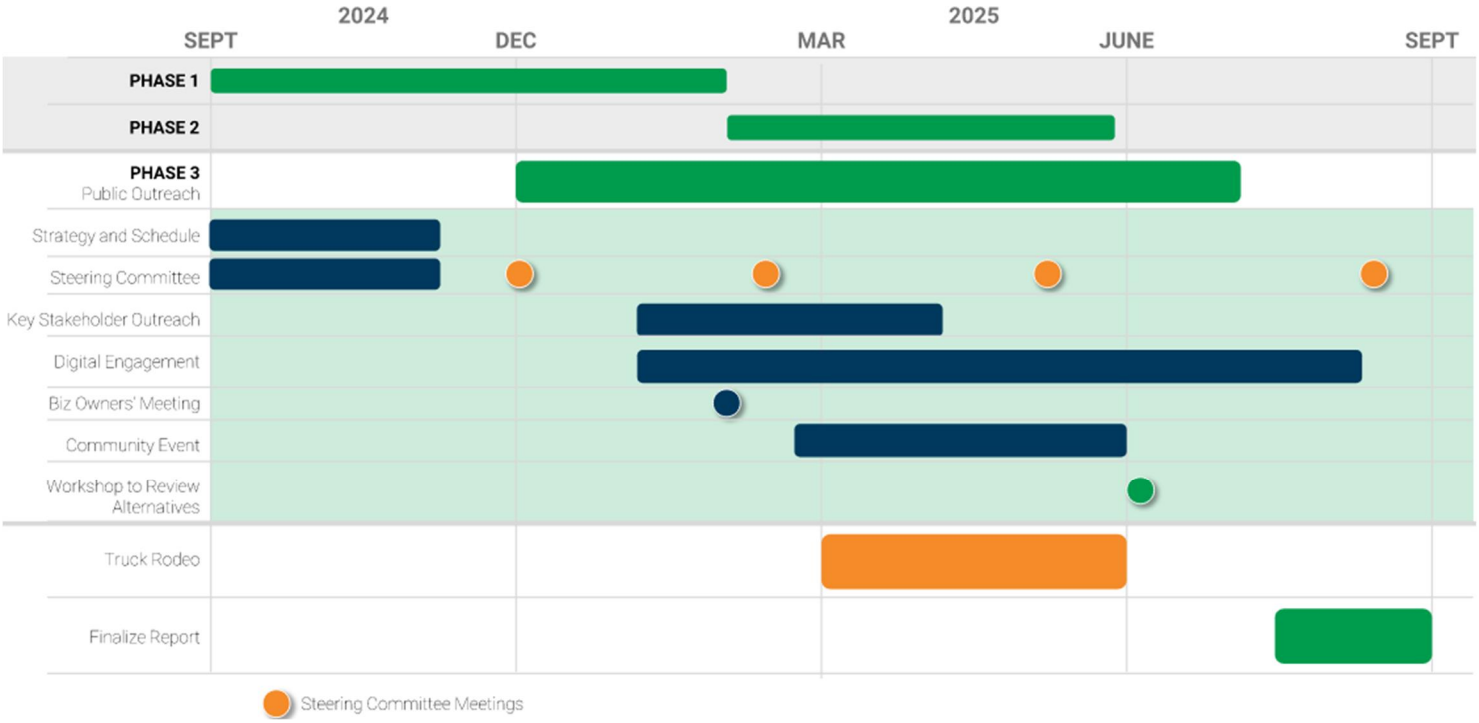
- Public Outreach
- Truck Rodeo
- Finalize Report

In addition to the three (3) phases of the subject study, the Kimley-Horn team developed an implementation plan to continue the study into the next phase of the project life cycle.

The project was awarded in September 2024 and a contract was signed and authorized for Notice to Proceed (NTP) in late October 2024 and was completed in October 2025. The study concepts were developed with a robust stakeholder and community engagement process. Stakeholder and public engagement efforts coincided with work in all phases, with the most critical stakeholder and public engagement activities taking place during Phase 3 work of the project.

The following graphic illustrates the overall project schedule.

PROJECT SCHEDULE



PHASE 1 - TRAFFIC STUDY METHODOLOGY

The overall traffic study, found in the appendix, provides technical details for the existing conditions, projected volume development, crash analysis, capacity analysis, and intersection control evaluation (stage 1 & stage 2). The procedure for this study was based upon the following tasks:

FIELD REVIEW AND SITE OBSERVATIONS

A field review was completed to observe operations during morning peak traffic demand periods and to assess existing geometric features and traffic characteristics for typical weekday conditions. Photographs were taken to document existing conditions.

DATA COLLECTION

13-hour turning movement counts (TMC) and 48-hour bidirectional counts were collected to understand existing travel patterns and vehicle classification at the study intersection.

Overall pedestrian volumes were very low throughout the day, and no pedestrians were captured at either study intersection during the peak hours. Heavy vehicle percentages varied throughout the study area and are summarized by intersection approach in Table 1. Heavy vehicle percentages presented in Table 1 are broken down by for Single Unit (SU) trucks and Multi-Unit or Combination (MU) trucks.

Table 1: Percent Heavy Vehicles

Intersection	Approach	AM Peak Hour			PM Peak Hour		
		SU	MU	Total	SU	MU	Total
SR 54 CONN at Cedar Grove Rd/ Old McDonough Rd	EB	34%	20%	54%	14%	16%	30%
	WB	25%	3%	28%	17%	17%	34%
	NB	5%	18%	23%	6%	10%	16%
	SB	13%	14%	27%	13%	23%	36%
Cedar Grove Rd at Old McDonough Rd	EB	17%	23%	40%	9%	14%	23%
	WB	24%	2%	26%	17%	18%	35%
	NB	40%	40%	80%	12%	20%	32%

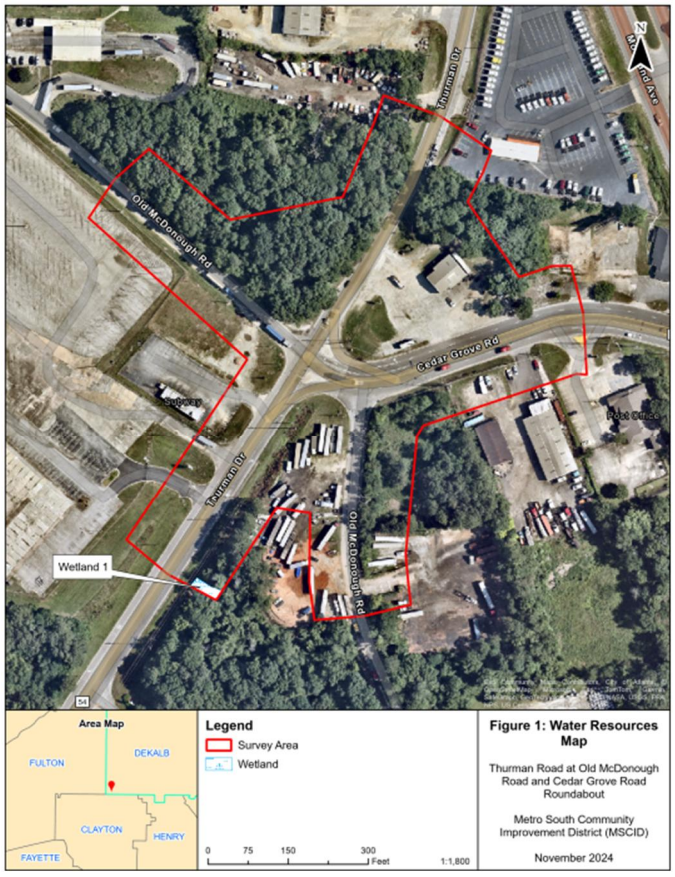
ENVIRONMENTAL SCREENING

Kimley-Horn completed an environmental desktop screening and site visit to identify potential environmental design constraints for the proposed freight roundabout at Thurman Road, Cedar Grove Road, and Old McDonough Road in DeKalb County, Georgia. This section is intended to summarize the findings, the full memorandum prepared by Kimley-Horn, can be found in the appendix of this document.

Prior to the site visit, a desktop screening of the project corridor was conducted using satellite imagery, United States Geological Survey (USGS) topographic maps, and online data resources including the National Wetland Inventory (NWI) and the USGS National Hydrography Dataset (NHD). No presence of federal or state waters fell within the project corridor.

On November 13, 2024, Kimley-Horn ecologist completed a field survey of the site. One resource was identified within the project corridor identified as Wetland 1, see Figure 1. Wetland 1 is an emergent wetland located in the Thurman Road right-of-way approximately 450 feet southwest of the subject intersection. The resource meets federally jurisdictional water criteria.

Figure 1: Water Resources Map



In addition, the ecology team screened for protected species utilizing the United States Fish and Wildlife Service (USFWS) information, planning, and consultation (IPaC) database and Georgia's Natural, Archaeological, and Historic Resources Geographic Information System (GNAHRGIS). The species identified within the project limits are:

- Danaus Plexippus – federally protected monarch butterfly
- Perimyotis Subflavus – tricolored bat
- Rhus Michauxii – Michaux's Sumac
- Cambarus Howardi – Chattahoochee Crayfish
- Cyprinella Xaenura – Altamaha Shiner
- Cypripedium Acaule – Pink Ladyslipper

Each species identified falls within the watershed or within three (3) miles of the proposed project.

A cultural screening was performed within the project boundary and utilizing the GNAHRGIS database, historical maps and aerial photography no historic or archaeological resources were identified. Additionally, no structures 50 years old or older were identified within the project area. No properties were formally evaluated for National Register eligibility as part of this screening.

In summary, the environmental screening did not identify the need for environmental permitting as no buffered state waters were identified within the project area, a Georgia Environmental Protection Division buffer variance is not anticipated.

VOLUME DEVELOPMENT

Traffic count data was reviewed to identify the morning and evening peak hours of traffic demand, and seasonal factors were applied to the raw traffic count data to develop peak hour volumes for existing conditions. Historical traffic growth in the area was reviewed alongside projected traffic growth from the Atlanta Regional Commission's travel demand model and future population projections to select a growth rate for the study area, which was applied to existing peak-hour volumes to forecast future traffic.

Future traffic volume projections were completed to evaluate future No-Build and Build conditions for a Base Year of 2028, which represents the year construction of the proposed improvements is anticipated to be complete, and for a Design Year of 2048, which represents a 20-year horizon from the Base Year. Future traffic growth projections from the Atlanta Regional Commission (ARC) Activity-Based travel demand model (TDM/ABM) were reviewed alongside ARC population projections and forecasts as well as historical growth at nearby GDOT traffic count stations to determine an appropriate growth rate to forecast future traffic volumes. The ARC TDM is the regional travel demand model associated with the current 2050 Metropolitan Transportation Plan (MTP) calibrated and validated at the regional level, which includes the counties of Cherokee, Clayton, Cobb, Dekalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, and Rockdale. In addition to these resources, the Dekalb County Comprehensive Transportation Plan (CTP), Dekalb County Activity-Based TDM, and the MSCID Freight Cluster Plan were reviewed to refine the projected traffic growth within the study area. Similar to the ARC TDM, the Dekalb County TDM is the regional travel demand model associated with the current CTP for 2050 specific to Dekalb County.

An annual percent growth rate of 0.7 percent was selected and applied to existing traffic volumes to develop future, forecasted traffic volumes for the Base (2028) and Design (2048) year scenarios. In addition to the base annual percent growth rate, heavy vehicle traffic was specifically reviewed to determine a more appropriate growth rate for heavy vehicle volumes due to the high concentration of truck activity and future freight developments in the surrounding area. Both the Dekalb County TDM and ARC TDM were utilized to review projected heavy vehicle volumes within the region and along the roadways within the study area. An annual percent growth rate of 0.83 was selected and applied specifically to the heavy vehicle volumes for the Base (2028) and Design (2048) year scenarios. Future-year volume calculations are provided in the volume development worksheets in the traffic study appendix.

CRASH ANALYSIS

The five most recent years of crash data was extracted from Georgia Department of Transportation (GDOT) Georgia Electronic Accident Reporting System (GEARS) crash database and the AASHTOWare Safety online crash analytics platform for the study area. A crash analysis was completed to understand historical crash trends at the site as well as the circumstances surrounding those crashes.

Over the five-year crash history, a total of 33 crashes were reported in the study area, including 7 injury crashes. All of the crashes occurred at the signalized intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road. No crashes occurred involving the leg of McDonough Road east of Thurman Road. Overall, crashes increased from 2 crashes reported in 2019 to 14 crashes reported in 2022, though there was a drop in 2023 with 1 crash reported. The five-year crash history is summarized in Table 2.

Table 2: Crash Data Summary

Year	Total Crashes	Injury Crashes	Dark Crashes	Wet Crashes	Heavy Vehicle Crashes
2019	2	0	0	0	2
2020	8	1	1	1	5
2021	8	3	0	3	7
2022	14	3	0	2	13
2023	1	0	0	0	1
Total	33	7	1	6	28
Average	6.6	1.4	0.2	1.2	5.6
Percent		*21.2%*	*3.0%*	*18.2%*	*84.8%*

The crash data was analyzed to identify any trends in the circumstances surrounding each crash and the following observations were made:

- 28 crashes involved a heavy vehicle (85 percent), all of which involved a multi-unit truck. The most common trend among these crashes were sideswipe-same direction crashes and angle crashes involving a heavy vehicle making a wide turn due to insufficient turning radii.
- Approximately 18 percent of the crashes occurred on wet pavement.
- The peak period for crash frequency occurred from 10:00 AM to 11:00 AM, after the AM peak hour for traffic demand. A secondary peak occurred from 1:00 PM to 2:00 PM prior to the PM peak period for demand.
- Using the National Safety Council (NSC) "KABCO" injury severity scale, approximately 3 percent of crashes were "visible injury" crashes (KABCO "B" rating), 18 percent were "complaint of injury" crashes (KABCO "C" rating), and approximately 79 percent of the crashes were "property-damage-only" (PDO) crashes (KABCO "O" rating).

CAPACITY ANALYSIS

AM and PM peak hour capacity analyses were prepared for existing conditions with existing traffic volumes; for future No-Build conditions with future volume projections; and for proposed conditions with future volume projections and recommended roadway improvements.

Existing Conditions Analysis:

Intersection capacity analyses were completed for Existing (2024) traffic conditions during the AM and PM peak hours using Synchro 12.0 software, which applies methodologies outlined in the Highway Capacity Manual (HCM). Delay and level-of-service (LOS) were evaluated for the study intersection using LOS criteria for signalized intersections. LOS is a qualitative measure from the HCM that represents a transportation facility's quality of service with six levels (A through F), with LOS A representing the best operating conditions and LOS F representing the worst, based on delay and volume-to-capacity ratio, as summarized for signalized intersections in Table 3.

Table 3: Level-of-Service Criteria

LOS	Vehicle Seconds of Delay	
	Signalized	Unsignalized
A	0-10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

The intersection of SR 54 CONN at Cedar Grove Road/Old McDonough Road was modeled as a signalized intersection, for which delay and LOS are determined for each movement at the intersection. The intersection of Cedar Grove Road at Old McDonough Road was modeled as a two-way, stop-controlled (TWSC) intersection and for TWSC intersections, delay and LOS are determined for each minor-street approach and major-street left-turn movement; no overall intersection delay or LOS are reported since major-street through vehicles are assumed to experience no delay.

The results of the Existing (2024) capacity analysis for each intersection are summarized in Table 4.

Table 4: Existing Capacity Analysis LOS and Vehicle Delay

Intersection	Control	Peak Hour	LOS and Delay (sec)					
			Overall	NB[1]	SB[1]	EB	WB	NWB
SR 54 CONN at Cedar Grove Rd/Old McDonough Rd	Signal	AM	B (15.1)	A (9.4)	B (10.1)	C (28.6)	B (16.9)	-
		PM	B (17.7)	B (10.1)	B (11.8)	C (28.9)	B (16.8)	-
Cedar Grove Rd at Old McDonough Rd	TWSC[1]	AM	N/A	-	-	N/A	A (8.0)	B (10.1)
		PM	N/A	-	-	N/A	A (8.8)	B (10.7)

[1]For TWSC intersections, delay/LOS reported at major-street approaches is major-street left-turn movement delay/LOS

The results of the Existing (2024) capacity analysis for the study area show that all approaches operate at an acceptable LOS during both peak hours; however, there are still operational and safety concerns based on the small turning radii and heavy truck activity in the study area.

No-Build Capacity Analysis (Future):

To evaluate No-Build conditions, volume projections were evaluated with the same geometry and model inputs as the existing conditions models. The same peak hour factors and pedestrian inputs used in the existing analyses were also used for the future analyses to provide a baseline comparison. The results of the No-Build capacity analysis for Thurman Road at Cedar Grove Road/Old McDonough Road and Cedar Grove Road at Old McDonough Road are summarized in Table 5.

The results of the No-Build capacity analysis indicate that the intersection operates acceptably during both peak hours and has excess capacity. At the intersection of Thurman Road at Cedar Grove Road/Old McDonough Road, all approaches operate at LOS C or better for all scenarios.

The intersection of Cedar Grove Road at Old McDonough Road also operates acceptably, with little to no delay experienced on the major street approaches of Cedar Grove Road and the side-street approach of Old McDonough Road operating at LOS B for all scenarios.

Table 5: No-Build Analysis LOS and Delay

Intersection	Control	Year	Peak Hour	LOS and Delay (sec)					
				Overall	NB	SB	EB	WB	NWB
SR 54 CONN at Cedar Grove Rd/ Old McDonough Rd	Signal	2028	AM	B (15.3)	A (9.5)	B (10.2)	C (30.1)	B (17.0)	-
			PM	B (18.1)	B (10.4)	B (12.2)	C (29.8)	B (16.9)	-
		2048	AM	B (16.1)	A (9.9)	B (10.8)	C (31.9)	B (17.0)	-
			PM	B (19.0)	B (10.5)	B (12.9)	C (31.7)	B (16.9)	-
Cedar Grove Rd at Old McDonough Rd	TWSC[1]	2028	AM	N/A	-	-	A (0.0)	A (0.1)	B (10.2)
			PM	N/A	-	-	A (0.0)	A (0.2)	B (11.5)
		2048	AM	N/A	-	-	A (0.0)	A (0.1)	B (10.2)
			PM	N/A	-	-	A (0.0)	A (0.2)	B (11.5)

[1]*For TWSC intersections, delay/LOS reported at major-street approaches is major-street left-turn movement delay/LOS*

Build Alternatives:

Based on a review of previous planning efforts, an analysis of existing conditions, and the intersection control evaluation, installing a single-lane roundabout that can accommodate heavy vehicle traffic is recommended for the intersection of Thurman Road (SR 54 CONN) at Cedar Grove Road/Old McDonough Road to address safety and operational deficiencies. Three roundabout concepts were analyzed as part of this analysis to determine the optimal design from an operations perspective. The design concepts for the proposed improvements are included in the appendix of this document. The following three concepts were evaluated:

- Build 1: four-leg roundabout with the northwestbound approach of Old McDonough Road converted to right-in-right-out operations
- Build 2: five-leg roundabout
- Build 3: five-leg roundabout with a right-turn slip-lane for the northwestbound approach of Old McDonough Road.

Build Capacity Analysis:

To evaluate the impacts of the proposed intersection improvements, intersection capacity analyses were completed for Build traffic conditions during the AM and PM peak hours using traffic projections for the Base (2028) and Design (2048) years. The roundabout alternatives were analyzed using SIDRA software. While intersection control and geometry were updated, Build scenario conditions were modeled with the same truck percentages, peak hour factors, and pedestrian inputs as the No-Build analyses.

The results of the operational analyses for the three build scenarios for the Build (2028) and Design (2048) years are summarized for the study area in Table 6.

Table 6: Build Analysis LOS and Delay

Build Scenario	Year	Peak Hour	LOS and Delay (sec)					
			Overall	NB	SB	EB	WB	NWB
Build 1	2028	AM	A (5.6)	A (5.5)	A (5.9)	A (6.4)	A (4.4)	B (11.2)
		PM	A (6.5)	A (5.6)	A (7.2)	A (7.5)	A (4.9)	B (11.1)
	2048	AM	A (6.1)	A (6.1)	A (6.4)	A (6.9)	A (4.6)	B (12.1)
		PM	A (7.4)	A (6.2)	A (8.3)	A (8.7)	A (5.1)	B (12.3)
Build 2	2028	AM	A (5.6)	A (5.7)	A (5.8)	A (6.4)	A (4.3)	A (8.0)
		PM	A (6.5)	A (5.8)	A (7.3)	A (7.4)	A (4.5)	A (6.1)
	2048	AM	A (6.3)	A (6.4)	A (6.5)	A (7.0)	A (4.5)	A (8.9)
		PM	A (7.4)	A (6.4)	A (8.4)	A (8.7)	A (4.7)	A (6.8)
Build 3	2028	AM	A (5.7)	A (5.8)	A (6.0)	A (6.3)	A (4.2)	A (7.4)
		PM	A (6.7)	A (6.0)	A (7.5)	A (7.3)	A (4.5)	A (5.9)
	2048	AM	A (6.4)	A (6.6)	A (6.7)	A (7.0)	A (4.4)	A (8.4)
		PM	A (7.6)	A (6.7)	A (8.7)	A (8.6)	A (4.7)	A (6.7)

The results of the Build capacity analysis indicate that delay and LOS will improve at the intersection in all roundabout scenarios. The intersection of Thurman Road at Cedar Grove Road/Old McDonough Road is anticipated to operate at LOS A with fewer than 8 seconds of delay during both peak hours of both future years. The northwestbound approach of Old McDonough Road is anticipated to operate at LOS B in the Build 1 scenario with right-in right-out operations but improves to LOS A in both five-leg roundabout scenarios of Build 2 and Build 3

INTERSECTION CONTROL EVALUATION (ICE)

An Intersection Control Evaluation (ICE) was completed for the intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road to identify and select an intersection control alternative that meets the project purpose and reflects overall best value.

GDOT's Intersection Control Evaluation (ICE) process was established to provide "traceability, transparency, consistency, and accountability when identifying and selecting an intersection control solution that both meets the project purpose and reflects the overall best value in terms of specific performance-based criteria." An ICE is required for any intersection improvement proposed at a location for which at least one of the roadways of the intersection is a state route or for any project that is funded using state or federal funds. An ICE analysis was completed for the intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road to determine all intersection treatments that should be considered for implementation.

ICE policy includes two stages: 1) Screening Decision and 2) Alternative Selection Decision Record. The first stage is a screening effort conducted to inform which intersection alternatives are appropriate for further evaluation. This stage is meant to eliminate non-competitive options and to identify which alternatives should be considered based on their practical feasibility. The second stage involves a more detailed evaluation of the alternatives identified in the first stage. This stage evaluates cost, traffic volumes, delay, environmental impacts, and stakeholder posture. This data is used to score the alternatives and to provide guidance on selecting the preferred alternative.

The second stage of an ICE analysis, the Alternative Selection Decision Record, involves a more detailed evaluation of the alternatives identified in the first stage. This stage evaluates planning-level cost estimates, traffic volume and operations, environmental impacts, stakeholder posture, and safety benefits estimated from observed crash data and identified crash reduction factors (CRF) to develop an Operations benefit-cost (B/C) ratio, a Safety B/C ratio, an ICE score, and a ranking for each alternative. Results from the second ICE stage are summarized in Table 7.

Table 3: ICE – Stage 2 Analysis Results

Alternative	Cost	CRF_{PDO}	$CRF_{I/F}$	Score	Rank
Single-Lane Roundabout	$5,344,000	24%	71%	8.7	1
Multilane Roundabout	$8,000,000	26%	71%	8.1	2
Install Turn lanes	$6,250,000	16%	13%	5.9	3

The single-lane roundabout was identified as the highest-ranking alternative, followed by the multilane roundabout. Though the multilane roundabout provides a greater CRF than the single-lane roundabout and provides slightly better operational improvement, the single-lane roundabout provides similar benefits in terms of operations and crash reduction and has a project cost estimate of $5,344,000 which is nearly $2.5 million less than the multilane roundabout. The turn lanes alternative provides less operational and crash reduction benefits at a similar project cost estimate, resulting in a lower benefit/cost ratio as compared to both roundabout alternatives

PHASE 2 – ALTERNATIVE DEVELOPMENT

Additional technical details and reports can be found in the overall traffic study and the limited scope concept report, both found in the appendix. The following information provides the evaluation details for the alternatives considered, and how the preferred alternative was derived. The procedure for this study was based upon the following tasks:

ALTERNATIVES CONSIDERED

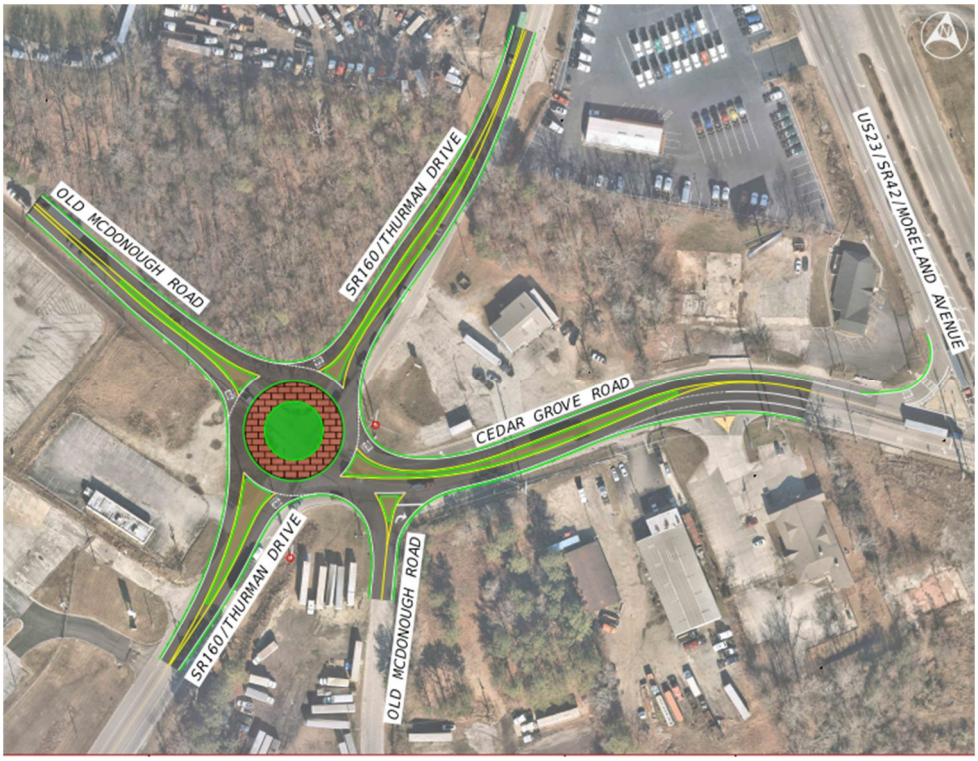
The traffic study and intersection control evaluation results identified the single lane roundabout as the preferred intersection control type. However, single lane roundabouts come in different shapes and sizes, considering this will be a freight roundabout, multiple concepts were developed. Conceptual plans were developed for the existing conditions and proposed improvements.

Figure 2: No-Build Existing Signal

This alternative was not selected as it does not meet the goals set forth in the project justification statement. Intersection would operate as a non-failing condition through 2048 projections but provide no mitigation to existing crash frequency. Although operational analysis and capacity analysis highlight non-failing conditions, the existing intersection experiences delay through off-site operations near the subject intersection. For instance, the signal at Moreland Avenue/SR 42, just east of the intersection along Cedar Grove Road, creates extensive delay for the eastbound left turn movement. The existing left turn storage on Cedar Grove Road is not sufficient for the volume of freight trucks (53+ foot trailers) stacking to make the left turn. The queue, at times, will congest into the Thurman Road intersection and block access to the northbound Old McDonough Road traffic. Another instance of off-site impacts to existing operations is the Blue Beacon Truck Wash of Atlanta, GA facility on Old McDonough Road just west of the subject intersection. At times, the facility will be at peak conditions, creating a queue of heavy trucks with only a single westbound lane that will congest into the subject signalized intersection. In addition, the heavy truck traffic trying to access the additional freight businesses west of the Blue Beacon facility will add to the queue and are unable to bypass the queue.

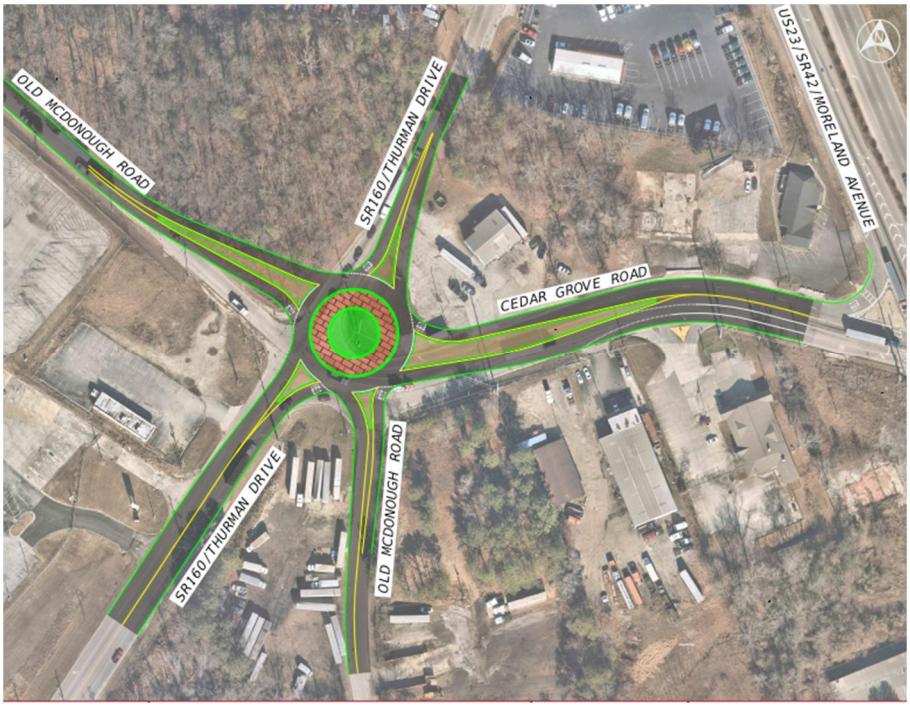
The existing southbound right turn on Thurman Road to Old McDonough has a substandard radius that does not allow freight trucks to turn within the pavement. The turn is tight and requires freight trucks to encroach into opposing lanes to make the maneuver. The turning movement is also eroding the return shoulder and creating a ponding issue with significant rutting in inclement weather conditions. Rut depths of over two (2) feet resulting in high potential for tractor trailer rollover.

Figure 3: 150’ ICD Circle (West)



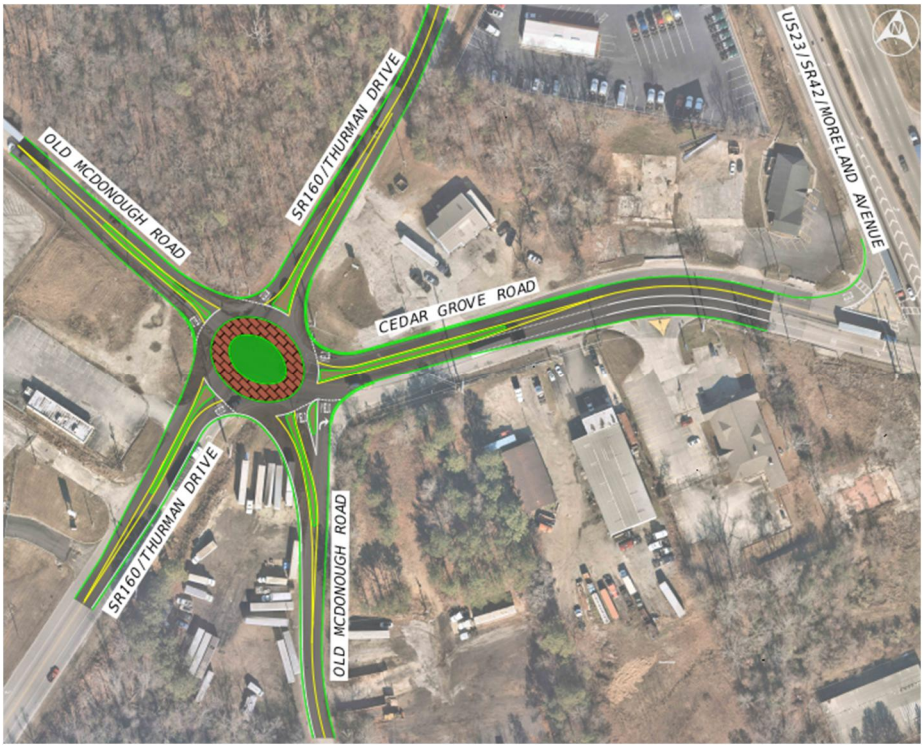
This alternative proposes the conversion of the existing signalized intersection to a four-legged traditional circular roundabout. The intersection would be slightly shifted west, and its overall footprint would increase, affecting an estimated five properties, one requiring upgrade to driveway access. This alternative would encroach more into environmentally sensitive areas (northwest quadrant). It also does not provide access for the northbound Old McDonough Road traffic into the roundabout intersection. It would be cut off by the splitter median and not provide the opportunity for northbound traffic to access the intersection.

Figure 4: 150’ ICD Circle (Centered))



This alternative proposes the conversion of the existing signalized intersection to a five-legged roundabout. The intersection would be slightly shifted up to the northeast, and its overall footprint would slightly increase, affecting 3 properties. Placement of the circle allows for each leg (5 total) to be provided an entry and exit for each leg of the roundabout. Major concern with this alternative is that the circle placement would require the GA Power transmission pole to be placed in the central island of the roundabout. Concern with potential truck impact with transmission pole from tight turns, and access for potential maintenance needs.

Figure 5: 130'-140' ICD Ellipse (Original)



This alternative proposes the conversion of the existing signalized intersection to a five-legged roundabout. This alternative proposes the conversion of the existing signalized intersection to a five-legged roundabout. The intersection would remain relatively in the same location, but its overall footprint would increase, affecting an estimated five properties. This alternative features an entry into the roundabout for each leg and a right-turn bypass lane onto Cedar Grove Road. The elongated ellipse provides a slimmer footprint compared to the other alternatives; however, the tight radius will limit the ability of larger trucks to make left turns along Cedar Grove and Old McDonough. It would also be in closer proximity to the large GA Power transmission pole located on the northeast quadrant.

Figure 6: Interim Improvements

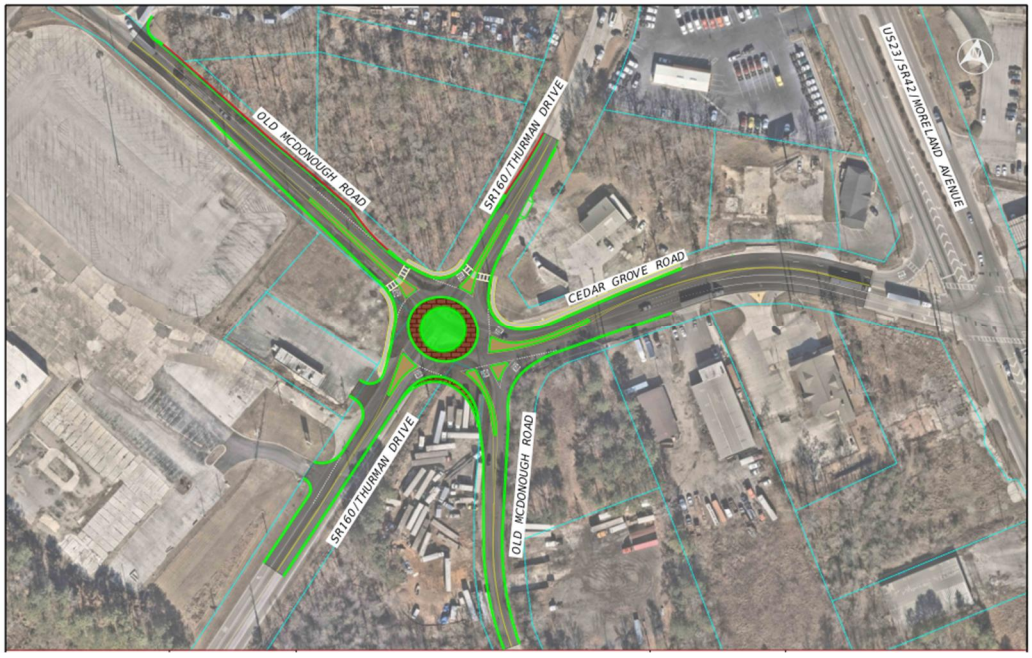
This alternative provides DeKalb County with an interim improvement that can be salvaged for the ultimate conversion to a single lane roundabout. The improvements would remove existing deficiencies including:

- The southbound Thurman Drive right turn lane
- Northwest substandard curb return
- Inadequate left turn lane storage for eastbound Cedar Grove Road turning on Moreland Avenue.
- Decel/Storage lane for westbound Old McDonough Road, servicing the Blue Beacon truck wash business.

Operational analysis and capacity analysis highlight non-failing conditions, the existing intersection experiences delay through off-site operations near the subject intersection. For instance, the signal at Moreland Avenue/SR 42, just east of the intersection along Cedar Grove Road, creates extensive delay for the eastbound left turn movement. The existing left turn storage on Cedar Grove Road is not sufficient for the volume of freight trucks (53+ foot trailers) stacking to make the left turn. The queue, at times, will congest into the Thurman Road intersection and block access to the northbound Old McDonough Road traffic. Another instance of off-site impacts to existing operations is the Blue Beacon Truck Wash of Atlanta, GA facility on Old McDonough Road just west of the subject intersection. At times, the facility will be at peak conditions, creating a queue of heavy trucks with only a single westbound lane that will congest into the subject signalized intersection. In addition, the heavy truck traffic trying to access the additional freight businesses west of the Blue Beacon facility will add to the queue and are unable to bypass the queue.

The improvements will provide optimal efficiency for the intersection and can be salvaged for the eventual conversion to a single lane roundabout. The primary improvement is the addition of the storage lane for the Blue Beacon Truck wash. This will allow thru traffic along Old McDonough Road and avoid the congestion of the existing signalized intersection.

Figure 7: 150'-170' ICD Ellipse (Refined Preferred)



The final preferred alternative is a refinement of the Figure 5 ellipse roundabout. This alternative proposes the conversion of the existing signalized intersection to a five-legged roundabout. The intersection would be slightly shifted south, and its overall footprint would increase, affecting an estimated three properties, and two parcels requiring driveway upgrades or connections. This alternative features an entry into the roundabout for each leg (5 total) and a right-turn bypass for the northbound Old McDonough Road with access onto Cedar Grove Road. This alternative also features a right turn outside truck blister for vehicles turning from Thurman Drive onto Old McDonough Road.

The preferred alternative would yield positive results in terms of better LOS, decreased delay, decrease in greenhouse gas emissions by 30%, and increased safety with pedestrian facilities. This alternative also avoids impacts to major GA Power transmission lines, while limiting impacts to environmentally sensitive areas. Based on the overall ICE (intersection control evaluation) analysis the stage two score for the single lane roundabout is 8.7, which is ranked ahead of the multilane roundabout and right turn lane addition alternatives. All intersection controls were explored with the ICE evaluation. ICE analysis considers intersection operations, safety, and cost as it evaluates the preferred intersection control.

Additional input from local stakeholders identified the need to incorporate off-site (direct intersection) improvements, including additional decel/storage lane for the westbound Old McDonough Road approaching the Blue Beacon Truck Wash of Atlanta, GA facility. The additional storage lane provides space for large commercial vehicles to lay idle while waiting for truck wash and avoid impeding the traffic continuing west on Old McDonough Road.

A typical section is provided in the appendix of this document for the preferred roundabout geometry.

PHASE 3 - STAKEHOLDER AND PUBLIC ENGAGEMENT STRATEGY

GOALS AND OBJECTIVES

To develop viable and cost-effective solutions for the intersection and to study the feasibility of roundabout alternatives in improving the efficiency, operations, and safety of the intersection, MSCID identified the following project objectives:

- Maximize safety, connectivity, and efficiency at the five-legged intersection
- Address the existing and future needs for all users
- Maintain consistency with the vision and goals set forth in DeKalb County's Comprehensive Transportation Plan, Unified Development Ordinance and the Atlanta Regional Transportation Plan
- Develop an implementation plan to include timeline, material and cost estimates, and various concept design layouts, typical sections and renderings as necessary to apply for federal funds through ARC and advance to preliminary engineering phase

Stakeholder and public engagement was conducted in support of these objectives, with a focus on ensuring a wide perspective of needs and desires were represented in final project recommendations.

Concepts for the Thurman Road Roundabout were shaped by input from stakeholders/the public through a variety of engagement and outreach techniques and strategies, which included a Stakeholder Steering Group (SSG), meetings with area business owners, a Truck Rodeo, interviews with local truck drivers, and digital media.

The Thurman Road Roundabout study had two realms of audiences: stakeholders and the general public. While there was some overlap between the two audience realms, the SSC meetings and targeted business community meeting were focused to engage key stakeholders. The truck driver interviews and digital engagement were focused on engaging the general public.

KEY STAKEHOLDERS

The key stakeholders for the study area included the Georgia Department of Transportation (GDOT), DeKalb County Department of Transportation (DOT), the MSCID Board of Directors, and the numerous freight logistics, warehousing, and distribution companies within 1 radial mile of the study intersection who utilize this intersection on a regular basis.

STAKEHOLDER STEERING GROUP

The SSG consisted of members identified by the PMT, which included representatives from:

- DeKalb County DOT
- MSCID Board of Directors
- MSCID business members
- Freight logistics, warehousing, and distribution companies within 1 radial mile of the study
- Regional freight logistics, warehousing, and distribution organizations or agencies
- Relevant ARC groups (Freight, Mobility, Transportation Demand Management, etc.)
- Disadvantaged communities-focused organizations

Project Management Team

The Thurman Road Roundabout was overseen by a Project Management Team (PMT) identified by the MSCID. In addition to MSCID, PMT members included the Atlanta Regional Commission, DeKalb County, and the consultant team.

The MSCID Project Manager was Larry Kaiser, the CID's Executive Director. Additional MSCID representatives who oversaw the Thurman Road design process include John Kranjic and Wayne Smith, the CID's Vice Chairman and CEO at FEPCO Container.

For the Kimley-Horn team, Adam Gomez, P.E., was the Project Manager. Civil Engineers Matt Dysko, P.E., and Jourdyn Fuga, P.E., RSP_{2B} supported the concept development for the project. Beth (Tucker) Smith, AICP, with Bihl Engineering is led stakeholder and public engagement efforts for the project.

Consultant Team Leads

MSCID was supported by a team of consultants led by Kimley-Horn, which included Bihl Engineering, Marr Traffic, and Platinum Geomatics.

Contact information for key consultant staff is listed below:

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Beth (Tucker) Smith
Public Engagement Lead
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Stakeholder Steering Group Meeting #1

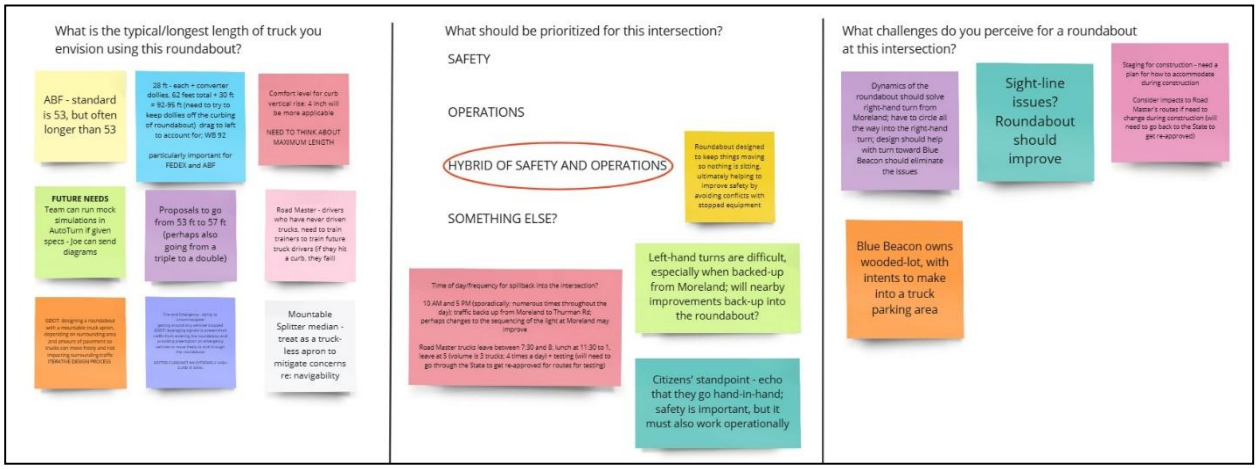
The first convening of the SSG took place virtually on December 6, 2024. Representatives from the MSCID Board, ARC, GDOT, DeKalb County DOT, and DeKalb Fire as well as area business owners and Homeowners' Association leaders/residents were in attendance.

The project team provided an overview presentation that covered details on the study's background and context, existing conditions (crash history, traffic analyses, environmental screening turning movement counts, and site physical constraints), general roundabout education, and the engagement process for the Thurman Road Roundabout project.

Following the presentation, the project team facilitated a discussion using Miro (a whiteboard ideation platform) with SSG participants. The discussion was tailored to gather key information and insights that

the project team needed from the SSG to help guide the initial design of potential alternatives for the future roundabout at the Thurman Road intersection.

The project team gathered input from the SSG in three main categories: anticipated roundabout use, design priorities, and identified challenges (a larger export of the Miro discussion is included in the Appendix of this report).



The project team prompted input related to potential roundabout use by asking: "What is the typical/longest length of truck you envision using this roundabout?" Participants—particularly those in the freight and logistics industry—provided details about truck specifications, and this information led to additional input related to the physical design and needs of the future roundabout.

- Trucks envisioned to use this roundabout are typically 53 feet long (which is the standard for many of the area business owners), but, some were considering to leverage longer fleets of 57 feet.
- For FedEx and ABF—some of the heaviest users of the intersection, there is a need to account for at least 92 to 95 feet, when accounting for converter dollies and articulation.
- As far as the roundabout's curb, 4 inches in height was envisioned to be the most comfortable, with an emphasis on a soft and not "extremely high" curb being ideal.
    - GDOT noted that they are working on roundabout designs for a mountable truck apron to support free truck movements without impacting surrounding traffic.
- Road Master, a local driving school, noted that there is a need to train their trainers on roundabout usage, particularly whichever design is settled for the Thurman Road roundabout, so they can train future truck drivers.
- DeKalb Fire noted that circumnavigation of the roundabout using their fire and emergency vehicles was paramount, especially the ability to navigate around any vehicles that may be stopped in the roundabout.
    - GDOT notes that in some cases, they were leveraging signals to prevent or halt traffic from entering the roundabout while providing pre-emption to emergency vehicles to access the roundabout.

The project team led the design priorities discussion by offering some potential priority options (Safety, Operations, Hybrid of Safety and Operations, Something Else). As the SSG discussed the various options, the group determined that the priorities amongst all the various users was likely a "Hybrid of

Safety and Operations." Many participants echoed that their priority was ensuring that the roundabout was designed in a way to keep things moving/prevent anything from sitting (either within the roundabout or any of the approach legs), which would ultimately help improve safety by avoiding conflicts due to stopped vehicles.

In addition to this priority, participants also noted:

- Left-hand turns at the nearby Moreland Avenue intersection are particularly difficult—especially during heavy back-up periods—and need to ensure that improvements done at that intersection would not create back-ups in this future roundabout.
- In regards to heavy traffic periods, spillback into the intersection typically occurs between 10 a.m. and 5 p.m., and that these back-ups occurred sporadically or at numerous times during this period—perhaps correlating with the light sequencing on Moreland Avenue.
    - There is also some potential correlation to area activity due to Road Master's training schedule, which also corresponds to the peak periods that the group noted.
        - However, to change the Road Master training schedule, the school would need to get approval from the State to alter the routes they use to test truck driver candidates on in the area.
- Area residents echoed the need to balance safety and operations in the future roundabout design, particularly with a focus on how commercial and non-commercial vehicles coexist in the roundabout.

To gather input on area challenges that may not otherwise be identified through the project team's data-driven existing conditions analyses, the project team prompted the SSG to provide input on any challenges they perceive with implementing a roundabout at this intersection:

- There are currently sight-line issues, which they hope the roundabout would address/resolve.
- A roundabout may potentially address the issues currently experienced when turning right from Moreland, which causes users to circle around to make the turn.
    - This issue was noted to be particularly problematic when turning into the Blue Beacon Truck Wash facility.
- The Blue Beacon is a high-driver of area back-ups, with trucks waiting to enter the facility causing long and frequent back-ups into the intersection, and addressing this issue is needed to keep the roundabout functional.
    - The Blue Beacon owns a wooded lot near the intersection, with potential plans to convert the area into a truck parking lot, which may further increase truck traffic in the area.
- Construction staging may be a challenge when the roundabout is implemented to ensure that area freight and logistics businesses can remain efficient.
- Road Masters also echoed the need for coordination during construction as any impacts to their routes would need to go to the State for approval if alterations are needed.

In the chat feature of the virtual meeting, a local resident also noted the need to provide general education on how to use a roundabout for all drivers, which could include educational campaigns as we all as physical installations through striping, signage, and other mediums.

AC I need to drop as well. A challenge that I will mention is driver education. By default, Americans are not as well equipped to manage roundabouts (particularly if this will be a multi-lane roundabout) as our European counterparts. We need to do all that we can (education, striping, signage, etc.) to ensure that shortcoming doesn't lead to unnecessary accidents.

The input gathered from the first SSG meeting was provided to the design team to complement their data-driven, technical analyses and to incorporate into the design of potential alternatives for a roundabout at the Thurman Road intersection.

Business Owners' Meeting

The project team worked with the PMT to identify a cohort of area business owners who could help guide the development of potential alternatives. Representatives from the MSCID Board, ARC, FEPCO Container Division, AAA Truck Sales, Inc., QUALA, B.A.H. Express Inc., Heavy Load Express/HLA Logistics, and Homeowners' Association leaders/residents were in attendance. The meeting took place in-person at the MSCID office on March 27, 2025.

The project team provided an overview presentation that covered details on the study's background and context, existing conditions (crash history, traffic analyses, environmental screening turning movement counts, and site physical constraints), general roundabout education, and the engagement process for the Thurman Road Roundabout project. The presentation also covered at a high-level 4 potential alternatives for the Roundabout at Thurman Road: Exhibit A – Modern Roundabout Offset West (1.1), Exhibit B – Modern Roundabout Offset North (1.2), Exhibit C – Modern Roundabout Elliptical (1.3), Exhibit D - Peanut Roundabout (1.4). These alternatives were displayed on large boards for participants to review in greater detail.

The project team facilitated a discussion with the business owners group about the four concepts, the benefits and challenges of each option, and any desired modifications or revisions to the designs needed to make the designs feasible for the intersection.

In general, the group was receptive to the various roundabout options and offered the following feedback on each option (categorized as 🟢benefit, 🔴challenge, and 🔵neutral/note):

- Exhibit A – Modern Roundabout Offset West (1.1)
  - The design forces a right from Old McDonough Road, providing an option to easily enter the roundabout to make a left-like movement is needed. 🔴
  - Concerns about spillback from the Blue Beacon Truck Wash in the northern portion of the area./roundabout. 🔴
  - The double left at Moreland Avenue is a challenge, that may present issues for the future roundabout. 🔴
    - Signal timing at Moreland Avenue may help resolve issues at the Thurman intersection. 🔵
- Exhibit B – Modern Roundabout Offset North (1.2)
  - Concerns about potential conflicts with the utility pole at the corner of Old McDonough Road and Thurman Drive. 🔴
  - This design better supports the left-hand turn at Moreland Avenue that many try to make.🟢
  - To address the forced-right-turn from Old McDonough Road, the design team should explore a right-turn slip lane. 🔵
- Exhibit C – Modern Roundabout Elliptical (1.3)
  - Consider opportunities for crosswalks/pedestrian considerations in the design. 🔵
  - This option does not force a right-hand turn from Old McDonough/allows for a split-turn from this approach. 🟢
  - Concerns about transmission lines and trucks turning at the Grove Road approach. 🔴
- Exhibit D - Peanut Roundabout (1.4)
  - This design may be too cumbersome/unique for most drivers—particularly freight drivers unfamiliar with the area and roundabout option—to maneuver. 🔴
  - Trucks leaving Moreland Avenue would need to make a three-part maneuver to navigate this area. 🔴

In addition to the input provided on the presented concepts, participants shared concerns that a roundabout—or, a roundabout alone—may note resolve the issues they experience at this intersection. This sentiment was shared in relation to queueing that is experienced due to truck drivers waiting to enter the Blue Beacon Truck Wash, which participants noted “stops the entire road, so, none of this matters.” When participants asked what the anticipated timeline for implementation was for the roundabout, the project team suggested 5 to 10 years; participants asked what could be done in the interim to resolve the queuing issues. The project team proposed creating an interim solution that would provide a truck bay to move queuing trucks off from the travel lanes, which would then be incorporated into the final roundabout design, and participants were in favor of this idea.

The group also encouraged the design team to heavily consider not only the current demand, but, projected/anticipated demand based on known—and, potential—development, stating that demand for freight and logistics in this area is only expected to increase.

ARC and resident participants also suggested considering opportunities to safely support pedestrians in this area.

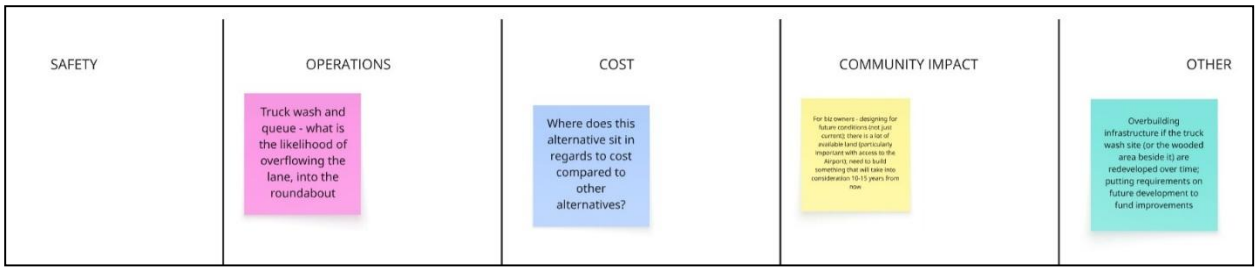
Stakeholder Steering Group Meeting #2

The second SSG meeting took place virtually on June 3, 2025. Representatives from the MSCID Board, ARC, GDOT, DeKalb County DOT, and DeKalb Fire as well as area business owners and Homeowners' Association leaders/residents were in attendance.

The project team provided an overview presentation that covered high-level details on the study's background and context, existing conditions, concept development, and stakeholder feedback received for the Thurman Road Roundabout project.

Following the presentation, the project team facilitated a discussion using Miro (a whiteboard ideation platform) with SSG participants. The discussion was tailored to gather key information and insights that the project team needed from the SSG to help advance concept development, including a preferred alternative and interim solution for the future roundabout at the Thurman Road intersection. The discussion also gathered input from the SSG on the Truck Rodeo the project team was planning to help provide a demonstration of the preferred alternative.

The project team gathered input from the SSG on the preferred alternative in five main categories: Safety, Operations, Cost, Community Impact, Other (a larger export of the Miro discussion is included in the Appendix of this report).

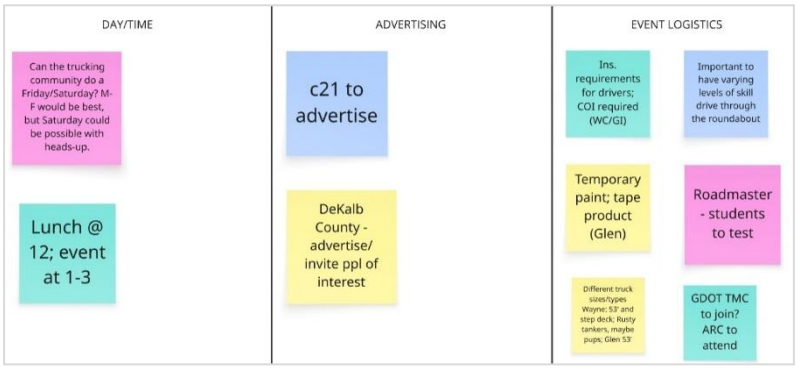


In general, the group was receptive to the preferred alternative and proposed interim solution and offered the following feedback in each category:

- Safety
  - No feedback was provided
- Operations
  - Concerns if the queueing from the Blue Beacon Truck Wash would impact the roundabout design if not otherwise addressed.
- Cost
  - Concerns on how this alternative compared with the other alternatives in relation to cost.
    - Appreciated that the interim solution would offer relief at the intersection before the full buildout of the roundabout as well as would be included in the final roundabout design (to avoid wasted cost).
- Community Impact
  - Emphasized the need to consider not only the current—and known—development, but also potential future growth of the area based on long-term projections.
- Other
  - Concerns on over addressing the current issues experienced at the Blue Beacon Truck Wash if that site changes uses over time.

- Desire to work with the County to incorporate future requirements that developments fund needed improvements.

The SSG also provided feedback to the project team related to planning the Truck Rodeo event in the following topic areas: Day/Time, Advertising, and Event Logistics.



- Day/Time
  - Sensitivity to truck drivers being willing to participate during non-working hours; weekday lunch time event recommended.
- Advertising
  - MSCID's advertising consultant, c21, to leverage a multi-pronged approach, including emailed invites, media outreach, and social media to promote the Truck Rodeo.
  - DeKalb County Communications can help amplify the CID's advertising.
- Event Logistics
  - The site owner requested a Certificate of Insurance for all drivers at the event as well as temporary treatment to outline the roundabout.
    - Participants offered a temporary tape product that they have also used for similar needs.
  - Desire for the event to showcase trucks of different lengths and types (freight, emergency, towing, etc.) as well as truck drivers of different skill levels.
    - Desire to reach out to Road Master to see if students could participate.
  - Desire to have GDOT, ARC, and other regional partners to attend to support event—and project—visibility.

The input gathered from the second SSG meeting was provided to the design team to incorporate into the design of preferred alternative and interim solution for a roundabout at the Thurman Road intersection, including for the alternative to be demonstrated at the Truck Rodeo.

Truck Rodeo

The Truck Rodeo was designed to serve as a live, real-time demonstration of the preferred alternative. This event offered those in the freight and logistics industry in the area, as well as area residents, to experience the preferred alternative at scale. The Truck Rodeo also offered the project design team the opportunity to observe the concept being used by drivers of different skill levels and in various large freight, emergency, and towing vehicles—these observations were incorporated into the final concept design.

In addition to the driving demonstration, the Truck Rodeo also include a to-scale, tabletop demonstration of the preferred alternative, boards depicting the concepts under consideration as well as the preferred alternative and interim solution, drones to capture aerial imagery of the preferred alternative demonstration, and interviews with truck drivers in attendance.

The Truck Rodeo was held at the large parking area of 3501 Moreland Road, Conley, GA, on June 17th. More than 50 people attended the event, including MSCID Board members, DeKalb Fire personnel, representatives from ARC and GDOT, area business owners and residents, truck drivers, and journalists with 11 Alive News. The project team and communications 21 distributed the email invitation to the full list of stakeholders gathered for the project, as well as to a distribution list that the CID uses for regular communications, and communications 21's list of media contacts. The stakeholder distribution lists are included in the Appendix of this document.

The project team provided a to-scale, tabletop demonstration of the preferred alternative to all truck drivers driving the course to educate them on the alternative's operations.

Participants viewing the to-scale, tabletop demonstration of the preferred alternative.

Project Manager Adam Gomez providing a walkthrough of the to-scale, tabletop demonstration of the preferred alternative to 11 Alive News.

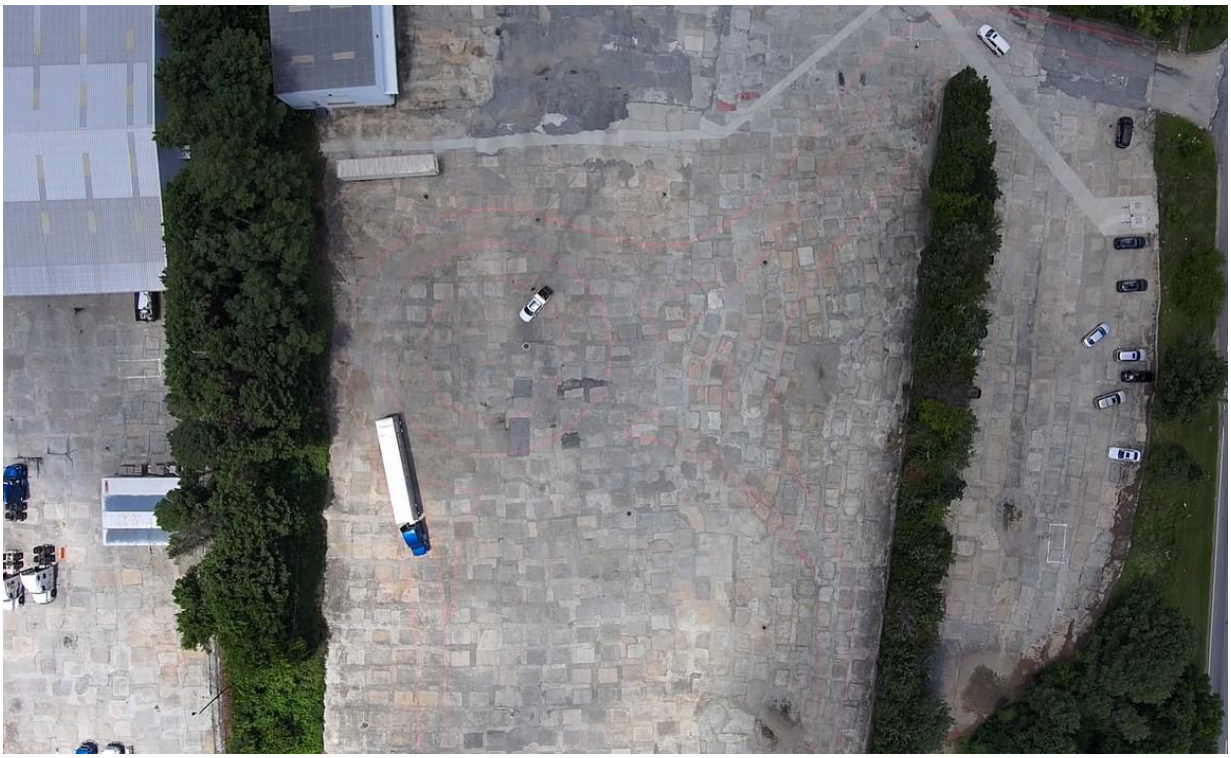
Below are pictures of the event and demonstration.

Project team member (right) and MSCID Board member (left) reviewing the concept boards.

Drone footage of the preferred alternative course.

Line-up of trucks to drive the preferred alternative course.

Equipment truck driving the preferred alternative course.



Drone footage of truck and vehicle driving the preferred alternative course.

The project team observed few needs to modify the preferred alternative design based on how the drivers operated the preferred alternative course.

The project team conducted interviews with some of the participating drivers to understand their general level of comfort and philosophy with driving through roundabouts. Interviewees were asked the following eight questions:

1. Approximately how many roundabout intersections have you driver your tractor-trailer through in the past year?
2. Have you received previous instruction or training on how to drive roundabouts?
3. If you answered "yes" to the previous question, where did you receive the direction on how to drive a roundabout? (Employer, Private Course, Self Discovery, Public Meeting/Brochure, Other)
4. How do you prefer to drive through a multi-lane roundabout? (Straddle both lanes, Stay in Lane)
5. When approaching a roundabout, do you block out adjacent traffic so that you can drive through the roundabout without other vehicles next to your cab and trailer?
6. When driving through a roundabout, do you prefer to use the outside lane only, the inside lane only (including truck apron area), or use both lanes?
7. When making a left-turn at a multilane roundabout, which lane do you choose to enter the roundabout and circulate through the roundabout to complete the left turn?
8. Describe your approach for navigating the proposed roundabout.

Five drivers participated in the survey, with two completing the interview together. The following are some high-level statistics gleaned from the truck driver interviews (the full response collection of these interviews is included in the Appendix of this document):

- Average Years of Experience Driving Trucks: 15.45 years, with a few as 3 months and as many as 32 years
- Average preferred truck length: 62.5, with three responding greater than 60'
- Q1: Average Number of Roundabouts Driven Through: 7.5, with as few as 0 and as many as 20
- Q2: Three out of four have not received any instruction on how to drive through a roundabout, with 1 receiving instruction from a driving instructor
- Q4: Three out of four prefer to stay in the lane when driving in a multi-lane roundabout, with one of those three noting “unless it is an emergency”; 1 prefers to straddle
- Q5: Three out of four prefer to block out adjacent traffic
- Q6: Two out of four prefer to use the outside lane only, 1 prefers to use both the inside and outside lanes, and 1 stating it depends on the context of the roundabout.
- Q7: Three out of 4 prefer to enter the roundabout from the inside lane when making a left-turn at a multilane roundabout.

The 11 Alive News article of the event is included in the Appendix of this document.

IMPLEMENTATION PLAN SUMMARY

This Implementation Plan details the steps, timeline, and resources needed to deliver the Thurman Road Freight Roundabout project. It serves as a roadmap by breaking down the overall strategy into actionable tasks, assigning responsibilities, and establishing a schedule for completion. This document will outline steps for clear communication, coordinating team efforts, and monitoring progress from the initial idea to final execution for the implementing the concept geometry of the freight roundabout developed in the Thurman Road Roundabout Study, into an operating roundabout.

PROJECT OVERVIEW

The Metro South Community Improvement District (MSCID) sought to develop a concept based on the feasibility and operational assessment of various roundabout design options at the existing five-legged intersection of Thurman (SR 54), Cedar Grove, and Old McDonough Roads.

The intersection was identified in the MSCID's *2016 Planning Study*, the Atlanta Regional Commission-funded (ARC) *MSCID Freight Cluster Plan* as a high priority transportation need, and as a long-range transportation project in DeKalb County's *Comprehensive Transportation Plan*. The project was funded through ARC's Regional Transportation Planning Study Program (AR-038-2425) and the Metro South Community Improvement District (MSCID). In support of transportation planning, traffic operational and safety analysis, and site investigation and data collection work for the project, stakeholder and public engagement was conducted by the project team at key points in the study's development.

PROJECT CONTEXT

Thurman Road (SR 54 Connection) is on the north and south approaches of the study intersection, Cedar Grove Road is on the eastern approach, and Old McDonough Road is on the western approach. The northbound Old McDonough approach is a stop condition and at a skewed angle, with its proximity only a few feet from the study intersection. The intersection is within a quarter mile of Moreland Avenue (SR 42) and a half mile within I-285. There are more than a dozen truck terminals, warehousing, and logistics facilities as well as related service industries within a half mile of the intersection. A recently redeveloped terminal site within a few thousand feet of this intersection has been permitted by DeKalb County as a new truck terminal, which includes a truck-driving school (these facilities have been in operation since 2022). Within a half mile of this study location, a 3,000-space freight logistics center received zoning approval and a land disturbance permit in 2023.

PROJECT GOALS/OBJECTIVES

Kimley-Horn was selected to provide the feasibility study and technical analysis of converting the existing signalized intersection into a single lane roundabout. The study objectives are listed below:

- Maximize safety, connectivity, and efficiency at the five-legged intersection.
- Address existing and future needs for all users.
- Maintain consistency with the vision and goals set forth in DeKalb County's Comprehensive Transportation Plan, Unified Development Ordinance, and the Atlanta Regional Transportation Plan.

- Develop and implementation plan to include timeline, material and cost estimates, and various concept design layouts, typical sections and renderings necessary to apply for federal funds through ARC and advance to the preliminary engineering phase.

PROJECT IMPLEMENTATION OUTLINE

The Thurman Road Roundabout project will consist of the following tasks:

PHASE 1 (12-18 MONTHS)

- Apply for funding through grant opportunities:
    - Federal Funding
        - Transportation Alternatives Program (TAP)
        - Safe Streets and Roads for All Program (SS4A)
        - Atlanta Regional Commission (ARC)
        - Department of Transportation's Better Utilizing Investments to Leverage Development (BUILD)
    - State Funding
        - Statewide Transportation Improvement Program (STIP)
        - GDOT Operational Improvements Program
        - GDOT Safety Program
        - DeKalb County SPLOST – Special Purpose Local Option Sales Tax
- Funding to be utilized for the following:
    - Preliminary engineering (PE),
    - Right-of-way acquisition (ROW)
    - Utility relocation
    - Construction

PHASE 2 (4 MONTHS)

- Develop Request For Proposals (RFP) outlining scope of project
    - RFP will vary depending on funding source – if state or federally funding, project delivery may vary:
        - State or federally funded will require GDOT Plans Development Process (PDP)
        - If locally funded (DeKalb) plans development process will likely be less rigorous.
- Select design consultant for development of design
- Concept development phase already developed through Kimley-Horn's feasibility study

PHASE 3 (12-18 MONTHS)

- Preliminary Field Plan Review (PFPR)
    - Environmental
        - Environmental Permit– not anticipated
        - GDOT MS4 Permit – Yes, falls within MS4 area
        - USACE Permit – Yes
    - Database
        - Topographic survey database
        - Sub Surface Utility Engineering (SUE) – Quality Level B
        - Pavement evaluation summary – Light summary anticipated

        - Includes geotechnical borings to determine existing pavement stability
    - Preliminary Design
        - Roadway design
        - Pavement design
        - Lighting design
            - Lighting Photometrics
        - Signing and Marking plans
        - Landscape plans
        - Utility plans and coordination
        - Construction phasing plans
        - Right-of-way plans
        - Preliminary erosion control
        - Preliminary BMP plans
        - PFPR Review Meeting
        - Submit FFPR review responses
- Final Field Plan Review (FFPR)
    - Right-of-way
        - Local Government ROW Agreement
        - ROW Acquisition
        - ROW Commitments
    - Final Lighting Design
    - Final Roadway Design
    - Final Signing and Marking plans
    - Final Landscape plans
    - Final Utility coordination and relocation plans
        - Obtain utility relocation agreements
    - Final Construction phasing plans
    - Final erosion control package – submit to EPD
    - Final BMP plan
    - Final construction specification package
    - FFPR Review Meeting
    - Submit FFPR review responses
    - Submit final plans

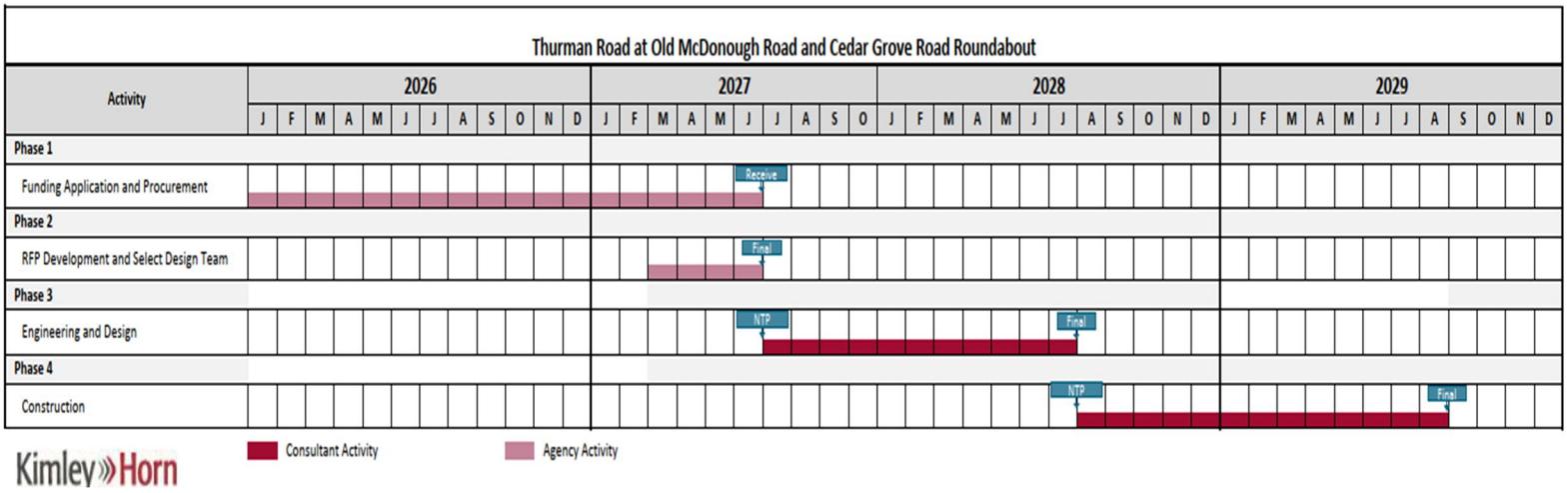
PHASE 4 (12-18 MONTHS)

- Certification and Construction Authorization
    - Construction Authorization for Local Let Projects
        - Advertise project for 30-days minimum
        - Requires a minimum of two (2) contractor bids to proceed
        - Perform bid opening
        - Perform bid tabulation and contractor due diligence
        - Select contractor to award project
        - Produce contractor agreements to proceed to pre-construction meeting
    - Pre-Construction Meeting
        - Produce pre-construction meeting minutes and package

- Determine contractor schedule and timelines for major completion
- Contractor to begin local county (DeKalb) permitting to begin construction

o Construction
- 10-15 months of construction
- Perform 7-day walk through
- Punch list walk through
- Finalize walk through punch list
- Perform as-built survey
- Close out project

PROJECT IMPLEMENTATION SCHEDULE



PROJECT IMPLEMENTATION BUDGET

PROJECT BUDGET

The project budget was developed by the feasibility study produced by Kimley-Horn. The budget consisted of construction costs, non-reimbursable utility costs, right-of-way costs, engineering and inspection contingency costs, and asphalt fuel adjustment costs (November 2025).

Project Cost Estimate Summary and Funding Responsibilities:						
	Engineering and Inspection and Contingency	Right-of-Way	Non-Reimbursable Utilities	Construction Costs	Asphalt Fuel Adjustment	Total Cost
Date of Estimate:	11/2025	11/2025	11/2025	11/2025		11/2025
Proposed Funding Source(s):	TBD	TBD	TBD	TBD		TBD
Estimated Cost:	$1,649,452.32	$50,657.00	$184,650.00	$3,950,784.00	$151,816.52	$5,987,359.84

PROJECT CONCLUSION

Kimley-Horn and Associates, Inc., was retained by Metro South Community Improvement District (MSCID) to complete the feasibility study for the Cedar Grove Road/Thurman Road (SR 54 CONN)/Old McDonough Road Roundabout project, which was identified by the CID's Board of Directors as its second highest priority infrastructure project for transportation safety and operations. The purpose of the project is to implement roadway improvements that enhance operations and safety at the intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road in southwest DeKalb County.

The project study area is in the Conley community, located immediately south of the city of Atlanta, approximately 0.7 miles south of the I-285 interchange with SR 42 and approximately 6 miles south of the I-20 interchange with SR 42. The surrounding area is heavily industrial with high volumes of truck traffic, though much of the infrastructure in the area is inadequate for heavy vehicles. The pavement section of Old McDonough Road is unsuitable for commercial and industrial traffic loads. Intersection turning radii for several approaches are insufficient to accommodate heavy vehicles, leading to wide turning movements and lane blockages which were observed during the site visit.

Commercial and industrial growth is expected to continue in the study area and within the surrounding community via the Dekalb County CTP as well as the MSCID Freight Cluster Plan, leading to increased truck traffic at the study intersection. These plans identified the intersection of Thurman Road (SR 54 CONN) at Cedar Grove Road/Old McDonough Road as a critical location for improvement and recommended a roundabout as the preferred alternative.

Data collection, field reviews, stakeholder outreach, crash analyses, intersection capacity analyses, and network delay analyses were completed to understand existing conditions in the study area. The field review found that intersection striping is barely visible due to significant wear and the pavement and curb conditions are poor in several areas of the study intersection, leading to wide turning movements by heavy vehicles and conflicts with vehicles pulling past the stop bar. Feedback from stakeholder outreach confirmed many of these observations, while also providing additional insight into what drivers are experiencing at the intersection such as damage being caused to vehicles by the poor pavement and curb conditions and difficulty completing turning movements at the intersection.

The results of the existing capacity analysis for the study area show that the intersection operates acceptably during both peak hours with excess capacity. All approaches operate at LOS C or better in all existing and future year scenarios. Additionally, over the five-year crash history, a total of 33 crashes were reported in the study area, including 7 injury crashes. All crashes occurred at the intersection of Thurman Road at Cedar Grove Road/Old McDonough Road. Of the 33 crashes that occurred, 28 of them involved heavy vehicles. The predominant crash types reported at the intersection were sideswipe-same direction crashes, which occurred most frequently in the southbound direction, with the main cause being heavy vehicles making a wide right turn onto Old McDonough Road and hitting vehicles in an adjacent lane due to insufficient turning radii.

A GDOT intersection control evaluation was completed to determine if there were any other intersection treatments that should be considered for implementation—a single-lane roundabout, multilane roundabout, and turn lanes were the only viable ICE Stage 2 alternatives, and the single-lane roundabout was the highest ranked alternative.

Based on its ability to improve intersection operations from both an intersection LOS and network delay perspective, address observed crash patterns, and provide better facilities for heavy vehicle traffic, a single-lane roundabout was identified as the preferred treatment for the intersection of Thurman Road (SR 54 CONN) at Cedar Grove Road/Old McDonough Road. Specifically, the Build 3 alternative with the 5-leg configuration and right-turn slip lane on the northwestbound approach on Old McDonough Road was identified as the preferred concept for the single-lane roundabout based on feedback from stakeholder outreach as well as improved connectivity for all intersection approaches and improved turning radii for large truck traffic

Kimley-Horn completed the study with a limited scope concept report to assist with applications for funding through federal or state funding opportunities.

LIST OF APPENDIX/SUPPORTING DATA

1. Traffic Study (w/ appendices)
2. Environmental Study
3. Concept Layout Alternatives
    a. Concept Alternative 1
    b. Concept Alternative 2
    c. Concept Alternative 3
    d. Interim Conditions
    e. Preferred Concept Alternative
    f. On-site Staging Schematic for preferred alternative
    g. Typical section (Preferred Alternative)
    h. Preferred Concept Design Check Package
    i. Roundabout Checklist (GDOT)
    j. Roundabout Emissions Analysis
4. Project Management Plan
5. Public Engagement Summary (w/ appendices)
6. Limited Concept Report (w/appendices)
7. Detailed Cost Estimates:
    a. Construction Cost Estimate
    b. Right-of-Way (ROW developed by design team – ROW cost worksheet not required)
    c. Utilities (Non-Reimbursable)

TRAFFIC ENGINEERING REPORT

Thurman Road/SR 54 Connector
Freight Roundabout Feasibility Study

Prepared for:

Prepared by:

Kimley»Horn

October 2025

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INTRODUCTION

Kimley-Horn and Associates, Inc., was retained by Metro South Community Improvement District (MSCID) to complete traffic engineering and roadway design services for the intersection Cedar Grove Road/Thurman Road (SR 54 CONN)/Old McDonough Road Roundabout project, which was identified by MSCID's Board of Directors as its second highest priority infrastructure project for transportation safety and operations. The purpose of the project is to implement roadway improvements that enhance operations and safety at the intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road in southwest DeKalb County.

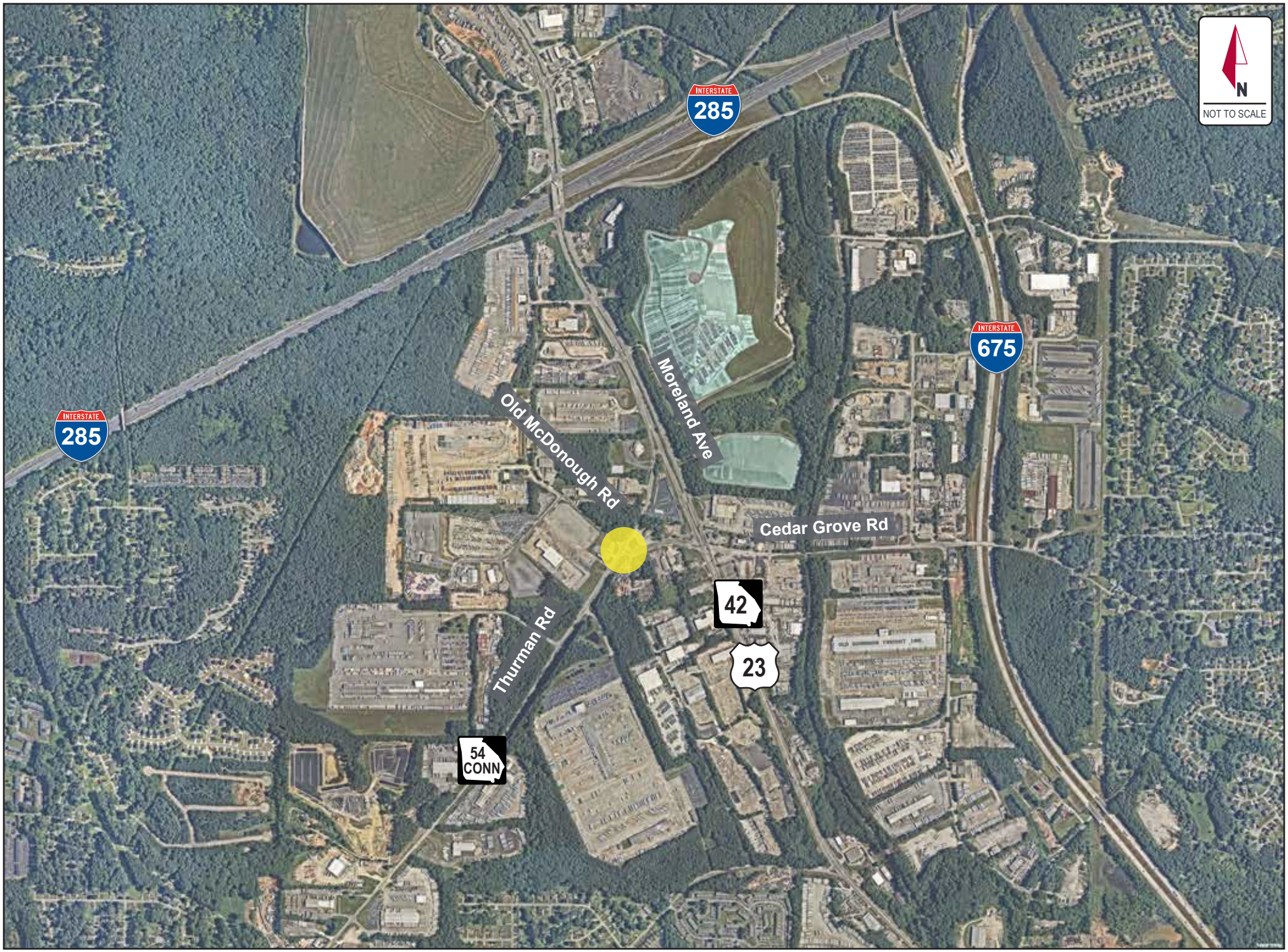
The project's study area is in the Conley community, located immediately south of the city of Atlanta, approximately 0.7 miles south of the I-285 interchange with SR 42 and approximately six miles south of the I-20 interchange with SR 42. The surrounding area is heavily industrial with high volumes of heavy vehicle traffic, though much of the infrastructure in the area is inadequate for heavy vehicles.

Current commercial and industrial growth trends are anticipated to accelerate in the study area, leading to increases in heavy vehicle traffic. These needs were addressed in the *Metro South Community Improvement District (MSCID) Freight Cluster Plan*, a planning effort completed in 2022 that was delivered through the Atlanta Regional Commission (ARC) Freight Cluster Plan program. The program is focused on "facilitating efficient freight movement, improving access to jobs, reducing traffic congestion, addressing changes in the freight industry, and improving safety, mobility, and access for all roadway users," and the goal of the *MSCID Freight Cluster Plan* is to improve freight mobility and workforce access to increase the business competitiveness of the MSCID area as well as the Atlanta region.

Building on findings and recommendations from the *MSCID Freight Cluster Plan* as well as other, previous planning efforts including the *Dekalb County Comprehensive Plan*, the Cedar Grove Road/Thurman Road (SR 54 CONN)/Old McDonough Road Roundabout project includes several proposed roadway improvements to address safety, operational, and related infrastructure deficiencies in the study area, including:

- Roadway widening, turning radii improvements, and upgraded pavement sections to accommodate industrial and commercial traffic volumes
- Conversion of the signalized intersection of SR 54 CONN (Thurman Road) at Cedar Grove Road/Old McDonough Road to a five-leg roundabout, including the southeast leg of Old McDonough Road
- Stormwater improvements including the installation of a curb and gutter, additional drainage structures and associated piping, and the potential installation of stormwater best management practices (BMP)
- Street lighting improvements

The purpose of this study is to evaluate the traffic impacts of the proposed roadway improvements. A project location map is included in **Figure 1**.



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THURMAN ROAD (SR 54 CONN) AT OLD MCDONOUGH ROAD AND CEDAR GROVE ROAD

FIGURE 1: PROJECT LOCATION MAP

STUDY METHODOLOGY

The procedure for this study was based upon the following tasks:

- **Field Review and Site Observations** – A field review was completed to observe operations during morning peak traffic demand periods and to assess existing geometric features and traffic characteristics for typical weekday conditions. Photographs were taken to document existing conditions.
- **Data Collection** – 13-hour turning movement counts (TMC) and 48-hour bidirectional counts were collected to understand existing travel patterns and vehicle classification at the study intersection.
- **Volume Development** – Traffic count data was reviewed to identify the morning and evening peak hours of traffic demand, and seasonal factors were applied to the raw traffic count data to develop peak hour volumes for existing conditions. Historical traffic growth in the area was reviewed alongside projected traffic growth from the Atlanta Regional Commission's travel demand model and future population projections to select a growth rate for the study area, which was applied to existing peak-hour volumes to forecast future traffic.
- **Crash Analysis** – The five most recent years of crash data was extracted from Georgia Department of Transportation (GDOT) Georgia Electronic Accident Reporting System (GEARS) crash database and the AASHTOWare Safety online crash analytics platform for the study area. A crash analysis was completed to understand historical crash trends at the site as well as the circumstances surrounding those crashes.
- **Capacity Analysis** – AM and PM peak hour capacity analyses were prepared for existing conditions with existing traffic volumes; for future No-Build conditions with future volume projections; and for proposed conditions with future volume projections and recommended roadway improvements.
- **Intersection Control Evaluation** – An Intersection Control Evaluation (ICE) was completed for the intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road to identify and select an intersection control alternative that meets the project purpose and reflects overall best value.
- **Conceptual Plans** – Conceptual plans were developed for the proposed improvements.
- **Documentation** – The results of the study are documented in this report.

STUDY AREA

The study area includes the signalized intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove road as well as the unsignalized intersection of Cedar Grove Road at Old McDonough Road, which is located immediately east of the signalized intersection. A site aerial is shown in **Figure 2**.

Thurman Road is a two-lane, minor arterial oriented in the northeast-southwest direction with a posted speed limit of 45 miles per hour (mph). Cedar Grove Road is a four-lane, minor arterial oriented in the east-west direction that runs east of Thurman Road with a posted speed limit of 45 mph. The minor arterial designation ends approximately 800 feet east of Thurman Road where Cedar Grove Road intersects SR 42 (Moreland Avenue). At the intersection with Thurman Road, McDonough Road is a two-lane, local road with a posted speed limit of 45 mph. Exclusive,

channelized right-turn lanes are provided at the northbound and westbound approaches, and an exclusive left-turn lane is provided at the westbound approach.

Approximately 100 feet east of Thurman Road, another roadway designated as Old McDonough Road intersects Cedar Grove Road. This section of Old McDonough Road is oriented in the northwest-southeast direction with no speed limit and is side-street stop controlled at the intersection. The pavement on both sections of Old McDonough Road is unsuitable for commercial and industrial traffic loads, with several areas of deteriorating and broken pavement and severe potholes observed. No pedestrian facilities are provided in the study area, and little-to-no streetlighting is provided.

The intersection of Thurman Road at Old McDonough Road/Cedar Grove is located approximately 800 feet west of the signalized intersection of SR 42 (Moreland Avenue) at Cedar Grove Road. SR 42 provides a connection to several surrounding freight and industrial sites as well as connection to I-285, approximately 3,700 feet north of Cedar Grove Road.

The surrounding land uses are primarily commercial and industrial. Several freight parking facilities surround the study area, as well as several freight trucking facilities including FedEx, ABF Freight, STG Logistics Drayage, XPO, and Old Dominion Freight Line. Wood's Tire Center tire shop is in the northeast quadrant of the intersection of Thurman Road at Old McDonough Road/Cedar Grove. Additionally, the Blue Beacon Truck Wash of Atlanta is located approximately 650 feet northwest of the study intersection on Old McDonough Road, with locals noting that truck queues waiting to enter the site often back up to Thurman Road.

PREVIOUS AND PLANNED ROADWAY PROJECTS

A review of previous planning documents, project maps, project lists, and recently completed projects was complete to identify any recent or upcoming projects relevant to the study intersection. The following projects were identified:

- Old McDonough Road Upgrades from Lancaster Road to Mason Dixon Road (Metro South CID Freight Cluster Plan): pave and widen existing dirt road to 12-foot lanes with minimum 3-foot shoulders and design pavement for heavy vehicle use
- Old McDonough Road Upgrade from Thurman Road to Lancaster Road (Metro South CID Freight Cluster Plan): upgrade existing pavement to 12-foot lanes with minimum 3-foot shoulders and design pavement for heavy vehicle use
- Lancaster Road Paving from Old McDonough Road to Dead End (Metro South CID Freight Cluster Plan): Pave and Widen existing dirt road to 12-foot lanes with minimum 3-foot shoulders and design pavement for heavy vehicle use
- Cedar Grove Road at Moreland Avenue Intersection Improvements (Metro South CID Freight Cluster Plan): Widen the eastbound right-turn lane on Cedar Grove road, reconstruct pavement to accommodate heavy vehicle traffic, and install sidewalk along Moreland Avenue in the northwest, southwest, and southeast quadrants of the intersection
- GDOT PI M004842 SR 54 CONN From SR 54/Clayton to SR 42/Dekalb (GDOT GeoPI): Resurfacing project along SR 54 CONN to improve the low PACES rating, completed in February 2023

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THURMAN ROAD (SR 54 CONN) AT OLD MCDONOUGH ROAD AND CEDAR GROVE ROAD

FIGURE 2: SITE AERIAL

FIELD REVIEW AND SITE OBSERVATIONS

A field review was completed on Wednesday, July 23, 2025 to observe operations during the morning peak traffic demand period and to assess existing geometric features and traffic characteristics for typical weekday conditions. Photographs were taken to document existing conditions and are included in **Appendix A**.

In addition to observations noted in previous sections of this report, the following observations were made:

- Truck traffic is very heavy on all legs of the intersection.
- The pavement along Old McDonough Road is in poor condition with areas of pooling water, potholes, and broken curbs.
- The outside southbound approach lane on Thurman Road is frequently underutilized due to trucks blocking part of the lane stopped at the signal
    - Larger vehicles are unable to use this lane due to the poor pavement condition in the northwest intersection corner and the turning radii required to make the southbound right turn.
- The vegetation on the west side of Thurman Road limits visibility of the signal for southbound vehicles.
- Pavement markings at the intersection are significantly worn and difficult to see.
    - There is no stop bar on the northwestbound approach on Old McDonough Road (stop-controlled leg).
    - The stop bar for the eastbound approach on Old McDonough Road is almost completely worn away.
    - The stop bar for the westbound left-turn lane is almost completely worn away.
- Eastbound vehicles on Old McDonough Road were observed to pull well past the stop bar due to the barely visible stop bar, causing conflicts with southbound right-turning vehicles due to the tight turning radii and poor pavement in the northwest corner of the intersection.
- Northbound right-turn vehicles on Thurman Road are stopping and yielding to eastbound vehicles as opposed to using the second outside receiving lane and no yield sign being present.
    - Large trucks making the northbound right-turn movement are over tracking onto the channelized right-turn island.
- Trucks are parking on the side of the road on both legs of Old McDonough Road
- Northbound traffic turning right and eastbound traffic traveling through the intersection are entering the westbound left-turn lane to position in line with the queue for the eastbound left-turn at the adjacent intersection of SR 42 at Cedar Grove Road.
- Eastbound traffic turning left at the intersection of SR 42 at Cedar Grove Road was observed to have a queue length backing up nearly to the beginning of the taper for the westbound left-turn lane at Thurman Road, but this length of queue was not frequent.
- The eastbound through movement followed by an immediate right-turn movement onto Old McDonough Road has potential uncommon/unexpected conflicts with traffic in the outside travel lane.

- The northwestbound left-turn movement was observed to be a very difficult movement due to the short distance from the signal and potential conflicts.

STAKEHOLDER OUTREACH

As part of this project, several forms of stakeholder engagement were carried out to ensure a wide perspective of needs and preferences were captured to understand existing conditions and issues as well as guide the development intersection alternatives. The following outreach events and tools were used throughout the project timeline:

- Digital Engagement and Communication through Social Media and MSCID Website
- Online Survey
- Stakeholder Steering Group meetings
- Business Owners' Meetings
- Community Event
- Roundabout Alternatives Workshop
- Truck Rodeo Demonstration Event

Feedback from each engagement event was gathered and summarized as part of the Project Engagement Summary, provided in **Appendix B**. The main feedback received from stakeholders was that the intersection of Thurman Road at Old McDonough Road/Cedar Grove Road is not adequately designed for efficient heavy vehicle operation. More specifically, the issues most mentioned were the following:

- Difficulty completing southbound right-turn movements from Thurman Road
- Difficulty completing northwestbound left-turn movements from Old McDonough Road
- Faded and unclear pavement markings
- Poor pavement condition causing damage to vehicles
- Queues backing up into the intersection from the Blue Beacon Truck Wash facility
- Queues backing up into the intersection from the eastbound left-turning traffic at the adjacent intersection of SR 42 (Moreland Avenue) at Cedar Grove Road

EXISTING TRAFFIC VOLUMES

Traffic count data was collected to understand existing travel patterns and vehicle classification in the study area. 13-hour turning movement counts (TMC) were collected at the study intersection on Tuesday, September 17, 2024, and 48-hour bidirectional counts were collected on Wednesday, November 6, 2024 and Thursday, November 7, 2024 at the following five locations in the study area:

- Thurman Road (SR 54 CONN), south of Cedar Grove Road
- Old McDonough Road, west of Thurman Road
- Thurman Road (SR 54 CONN), north of Cedar Grove Road
- Cedar Grove Road, east of Thurman Road
- Old McDonough Road, south of Cedar Grove Road

The 13-Hour TMCs included passenger car, heavy vehicle, bicycle, and pedestrian volumes to capture multimodal characteristics in the study area. The morning peak hour was determined to be from 7:00 AM to 8:00 AM and the evening peak hour was determined to be from 4:45 PM to 5:45 PM. Monthly and daily factors were applied to the raw traffic count data to develop peak hour volumes that represent existing conditions. Raw traffic count data can be found in **Appendix C**, and Existing (2024) peak-hour traffic volumes are presented in **Figure 3**. Volume development worksheets are provided in **Appendix D**.

Overall pedestrian volumes were very low throughout the day, and no pedestrians were captured at either study intersection during the peak hours. Heavy vehicle percentages varied throughout the study area and are summarized by intersection approach in **Table 1**. Heavy vehicle percentages presented in **Table 1** are broken down by for Single Unit (SU) trucks and Multi-Unit or Combination (MU) trucks.

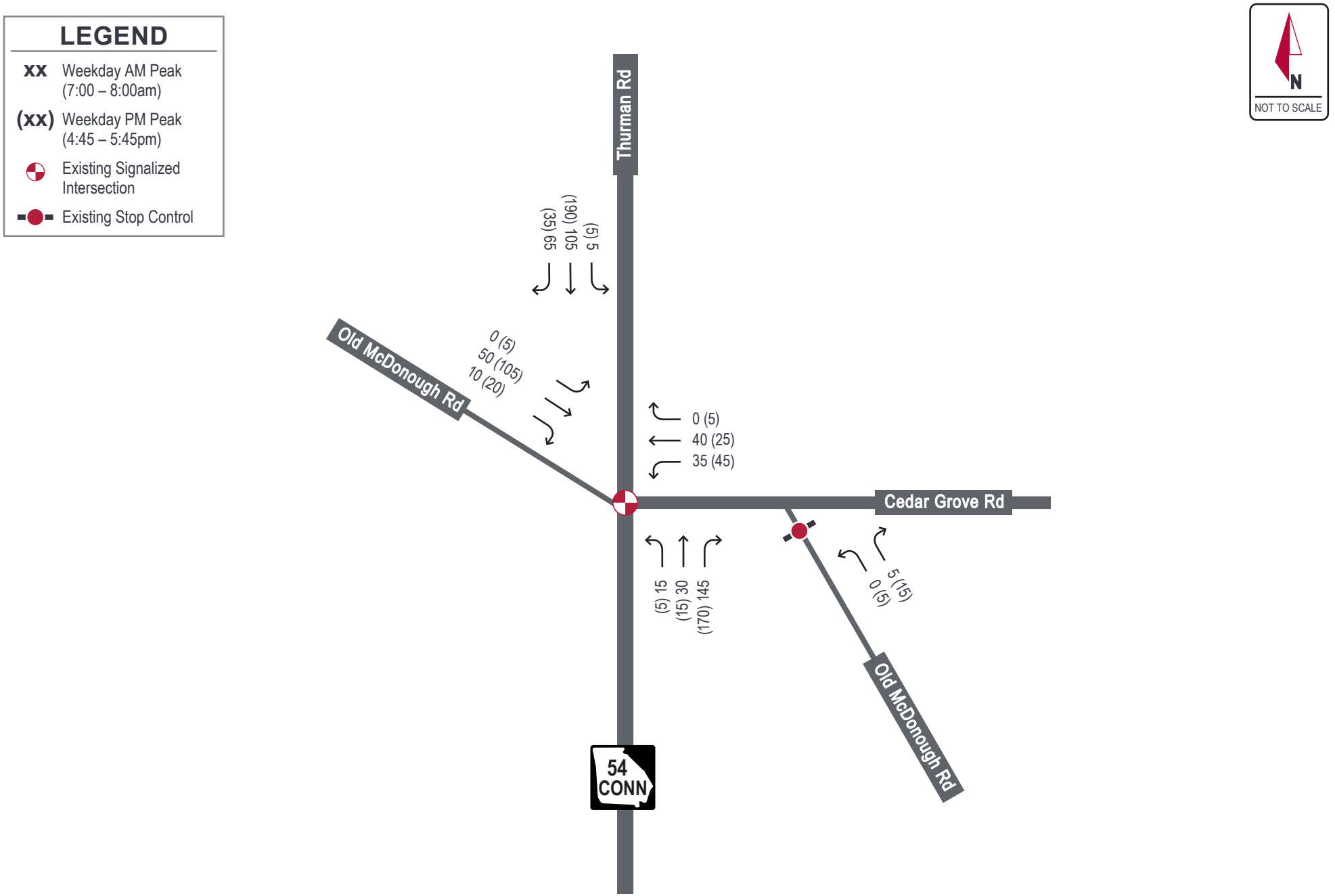
Table 1: Percent Heavy Vehicles

Intersection	Approach	AM Peak Hour			PM Peak Hour		
		SU	MU	Total	SU	MU	Total
SR 54 CONN at Cedar Grove Rd/ Old McDonough Rd	EB	34%	20%	54%	14%	16%	30%
	WB	25%	3%	28%	17%	17%	34%
	NB	5%	18%	23%	6%	10%	16%
	SB	13%	14%	27%	13%	23%	36%
Cedar Grove Rd at Old McDonough Rd	EB	17%	23%	40%	9%	14%	23%
	WB	24%	2%	26%	17%	18%	35%
	NB	40%	40%	80%	12%	20%	32%

CRASH ANALYSIS

Crash data was extracted for the study area from the Georgia Department of Transportation (GDOT) Georgia Electronic Accident Reporting System (GEARS) crash database and from AASHTOWare Safety, GDOT's online crash database and analytics tool for the five-year period from January 1, 2019 to December 31, 2023. All individual crash reports were reviewed to confirm that the details surrounding each crash—including locations, crash types, crash severity, directions of travel, lighting conditions, and surface conditions—were coded correctly. A crash data table is provided in **Appendix E**.

Over the five-year crash history, a total of 33 crashes were reported in the study area, including 7 injury crashes. All of the crashes occurred at the signalized intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road. No crashes occurred involving the leg of McDonough Road east of Thurman Road. Overall, crashes increased from 2 crashes reported in 2019 to 14 crashes reported in 2022, though there was a drop in 2023 with 1 crash reported. The five-year crash history is summarized in **Table 2**.



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THURMAN ROAD (SR 54 CONN) AT OLD MCDONOUGH ROAD AND CEDAR GROVE ROAD

FIGURE 3: EXISTING (2024) PEAK HOUR TRAFFIC VOLUMES

Table 2: Crash Data Summary

Year	Total Crashes	Injury Crashes	Dark Crashes	Wet Crashes	Heavy Vehicle Crashes
2019	2	0	0	0	2
2020	8	1	1	1	5
2021	8	3	0	3	7
2022	14	3	0	2	13
2023	1	0	0	0	1
Total	**33**	**7**	**1**	**6**	**28**
Average	6.6	1.4	0.2	1.2	5.6
Percent		*21.2%*	*3.0%*	*18.2%*	*84.8%*

The crash data was analyzed to identify any trends in the circumstances surrounding each crash and the following observations were made:

- 28 crashes involved a heavy vehicle (85 percent), all of which involved a multi-unit truck. The most common trend among these crashes were sideswipe-same direction crashes and angle crashes involving a heavy vehicle making a wide turn due to insufficient turning radii.
- Approximately 18 percent of the crashes occurred on wet pavement.
- The peak period for crash frequency occurred from 10:00 AM to 11:00 AM, after the AM peak hour for traffic demand. A secondary peak occurred from 1:00 PM to 2:00 PM prior to the PM peak period for demand. **Figure 4** depicts crashes by time-of-day in comparison to hourly traffic fluctuations throughout the day at the intersection of SR 54 CONN at Cedar Grove Road/Old McDonough Road.
- Using the National Safety Council (NSC) “KABCO” injury severity scale, approximately 3 percent of crashes were “visible injury” crashes (KABCO “B” rating), 18 percent were “complaint of injury” crashes (KABCO “C” rating), and approximately 79 percent of the crashes were “property-damage-only” (PDO) crashes (KABCO “O” rating), depicted in **Figure 5**.

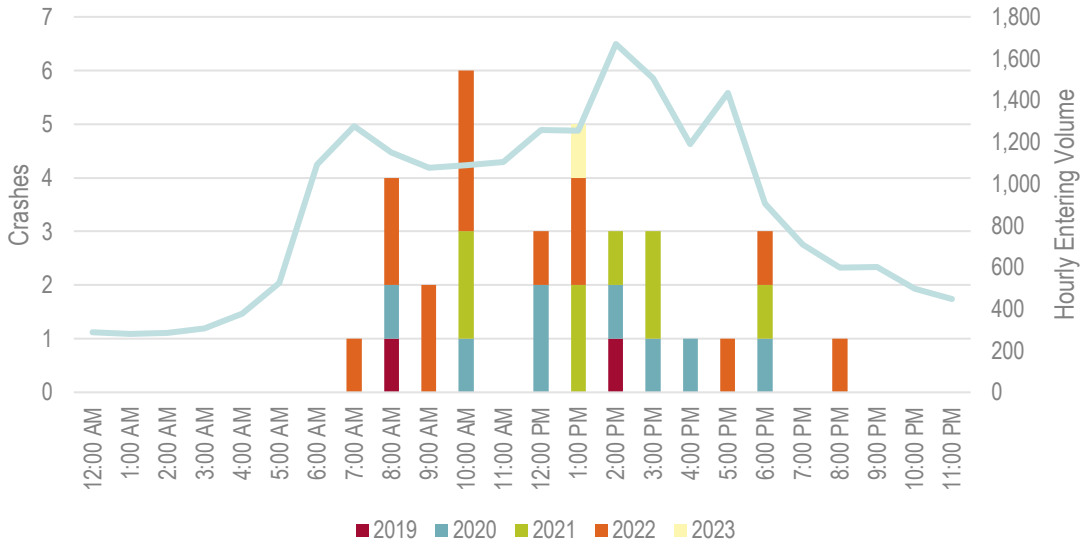


Figure 4: Crashes by Time of Day

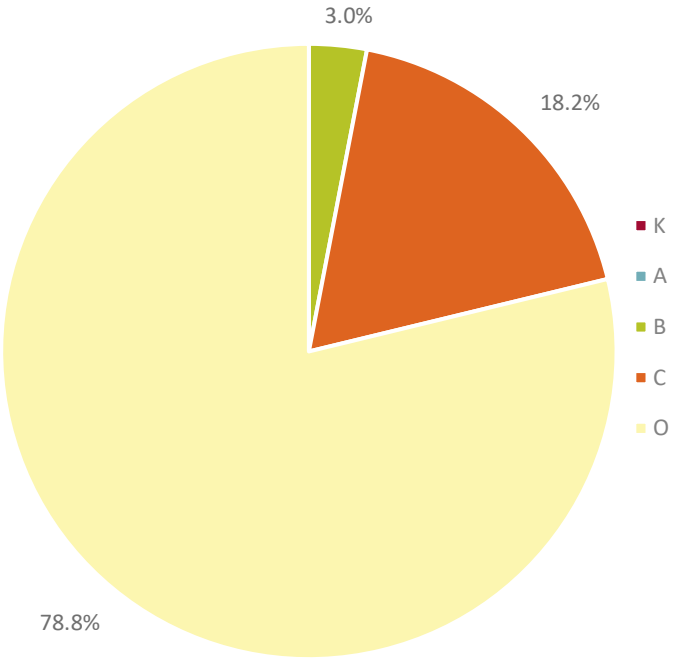


Figure 5: Crashes by KABCO Severity

Crash Types

Crashes were analyzed by type and summarized in **Table 3**.

Table 3: Crashes by Type – Thurman Rd at Old McDonough Rd/Cedar Grove Rd

Crash Type	Crash Severity	2019	2020	2021	2022	2023	Total		
Sideswipe - Same Direction	C	0	0	2	0	0	2	11	33%
	O	0	0	3	6	0	9		
Rear End	C	0	0	1	0	0	1	6	18%
	O	0	2	1	2	0	5		
Backed Into	C	0	0	0	1	0	1	5	15%
	O	0	3	1	0	0	4		
Angle	C	0	0	0	2	0	2	5	15%
	O	1	0	0	2	0	3		
Left Turn	B	0	1	0	0	0	1	4	12%
	O	0	2	0	0	1	3		
Sideswipe - Opposite Direction	O	0	0	0	1	0	1	1	3%
Right Turn	O	1	0	0	0	0	1	1	3%
Total	B	0	1	0	0	0	1	33	100%
	C	0	0	3	3	0	6		
	O	2	7	5	11	1	26		
	All	2	8	8	14	1	33		

The predominant crash types reported at the intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road were sideswipe-same direction crashes (11 crashes/33 percent). Sideswipe-same direction crashes occurred most frequently in the southbound direction (91 percent), followed by the westbound direction (9 percent).

The second most predominant crash types reported at the intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road were read-end crashes (6 crashes/18 percent). Rear-end crashes occurred most frequently in the southbound direction (50 percent).

Additionally, 5 angle crashes (15 percent) and 4 left-turn crashes (12 percent) were reported at the intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road. Of the angle crashes reported, 4 involved a southbound vehicle and a westbound vehicle. Of the left-turn crashes reported, 3 involved a northbound left-turning vehicle and 1 involved a southbound left-turning vehicle. A collision diagram is provided in **Appendix F**.

EXISTING CAPACITY ANALYSIS

Intersection capacity analyses were completed for Existing (2024) traffic conditions during the AM and PM peak hours using Synchro 12.0 software, which applies methodologies outlined in the Highway Capacity Manual (HCM). Delay and level-of-service (LOS) were evaluated for the study intersection using LOS criteria for signalized intersections. LOS is a qualitative measure from the HCM that represents a transportation facility's quality of service with six levels (A through F), with LOS A representing the best operating conditions and LOS F representing the worst, based on delay and volume-to-capacity ratio, as summarized for signalized intersections in **Table 4**.

Table 4: Level-of-Service Criteria

LOS	Vehicle Seconds of Delay	
	Signalized	Unsignalized
A	0-10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

The intersection of SR 54 CONN at Cedar Grove Road/Old McDonough Road was modeled as a signalized intersection, for which delay and LOS are determined for each movement at the intersection. The intersection of Cedar Grove Road at Old McDonough Road was modeled as a two-way, stop-controlled (TWSC) intersection and for TWSC intersections, delay and LOS are determined for each minor-street approach and major-street left-turn movement; no overall intersection delay or LOS are reported since major-street through vehicles are assumed to experience no delay.

The results of the Existing (2024) capacity analysis for each intersection are summarized in **Table 5**, and Synchro analysis worksheets are provided in **Appendix G**.

Table 5: Existing Capacity Analysis LOS and Vehicle Delay

Intersection	Control	Peak Hour	LOS and Delay (sec)					
			Overall	NB[1]	SB[1]	EB	WB	NWB
SR 54 CONN at Cedar Grove Rd/Old McDonough Rd	Signal	AM	B (15.1)	A (9.4)	B (10.1)	C (28.6)	B (16.9)	-
		PM	B (17.7)	B (10.1)	B (11.8)	C (28.9)	B (16.8)	-
Cedar Grove Rd at Old McDonough Rd	TWSC[1]	AM	N/A	-	-	N/A	A (8.0)	B (10.1)
		PM	N/A	-	-	N/A	A (8.8)	B (10.7)

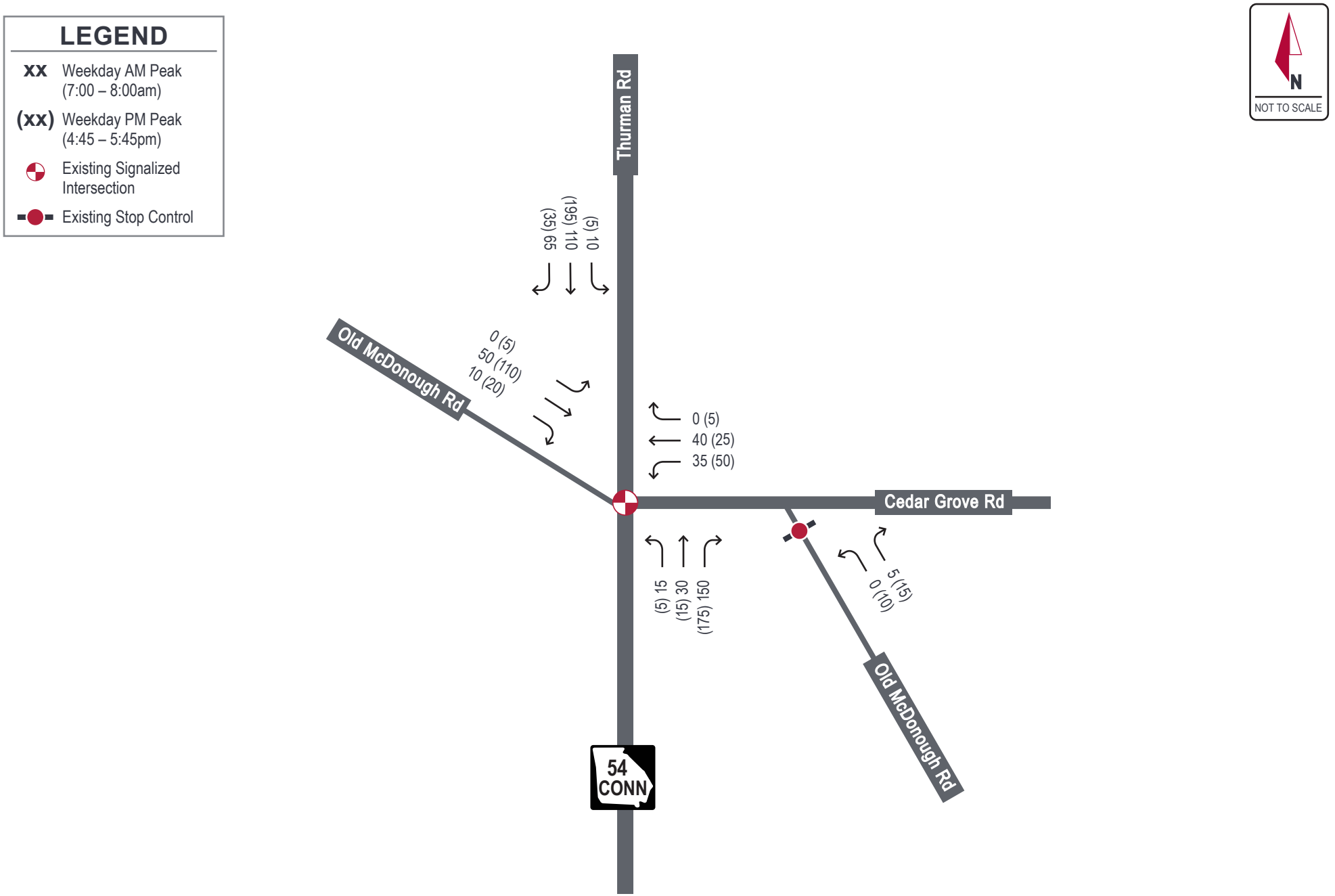
[1]For TWSC intersections, delay/LOS reported at major-street approaches is major-street left-turn movement delay/LOS

The results of the Existing (2024) capacity analysis for the study area show that all approaches operate at an acceptable LOS during both peak hours; however, there are still operational and safety concerns based on the small turning radii and heavy truck activity in the study area.

FUTURE CONDITIONS

Future traffic volume projections were completed to evaluate future No-Build and Build conditions for a Base Year of 2028, which represents the year construction of the proposed improvements is anticipated to be complete, and for a Design Year of 2048, which represents a 20-year horizon from the Base Year. Future traffic growth projections from the Atlanta Regional Commission (ARC) Activity-Based travel demand model (TDM/ABM) were reviewed alongside ARC population projections and forecasts as well as historical growth at nearby GDOT traffic count stations to determine an appropriate growth rate to forecast future traffic volumes. The ARC TDM is the regional travel demand model associated with the current 2050 Metropolitan Transportation Plan (MTP) calibrated and validated at the regional level, which includes the counties of Cherokee, Clayton, Cobb, Dekalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, and Rockdale. In addition to these resources, the Dekalb County Comprehensive Transportation Plan (CTP), Dekalb County Activity-Based TDM, and the MSCID Freight Cluster Plan were reviewed to refine the projected traffic growth within the study area. Similar to the ARC TDM, the Dekalb County TDM is the regional travel demand model associated with the current CTP for 2050 specific to Dekalb County.

An annual percent growth rate of 0.7 percent was selected and applied to existing traffic volumes to develop future, forecasted traffic volumes for the Base (2028) and Design (2048) year scenarios, which are shown in **Figure 6** and **Figure 7**, respectively. In addition to the base annual percent growth rate, heavy vehicle traffic was specifically reviewed to determine a more appropriate growth rate for heavy vehicle volumes due to the high concentration of truck activity and future freight developments in the surrounding area. Both the Dekalb County TDM and ARC TDM were utilized to review projected heavy vehicle volumes within the region and along the roadways within the study area. An annual percent growth rate of 0.83 was selected and applied specifically to the heavy vehicle volumes for the Base (2028) and Design (2048) year scenarios. Future-year volume calculations are provided in the volume development worksheets in **Appendix D**.



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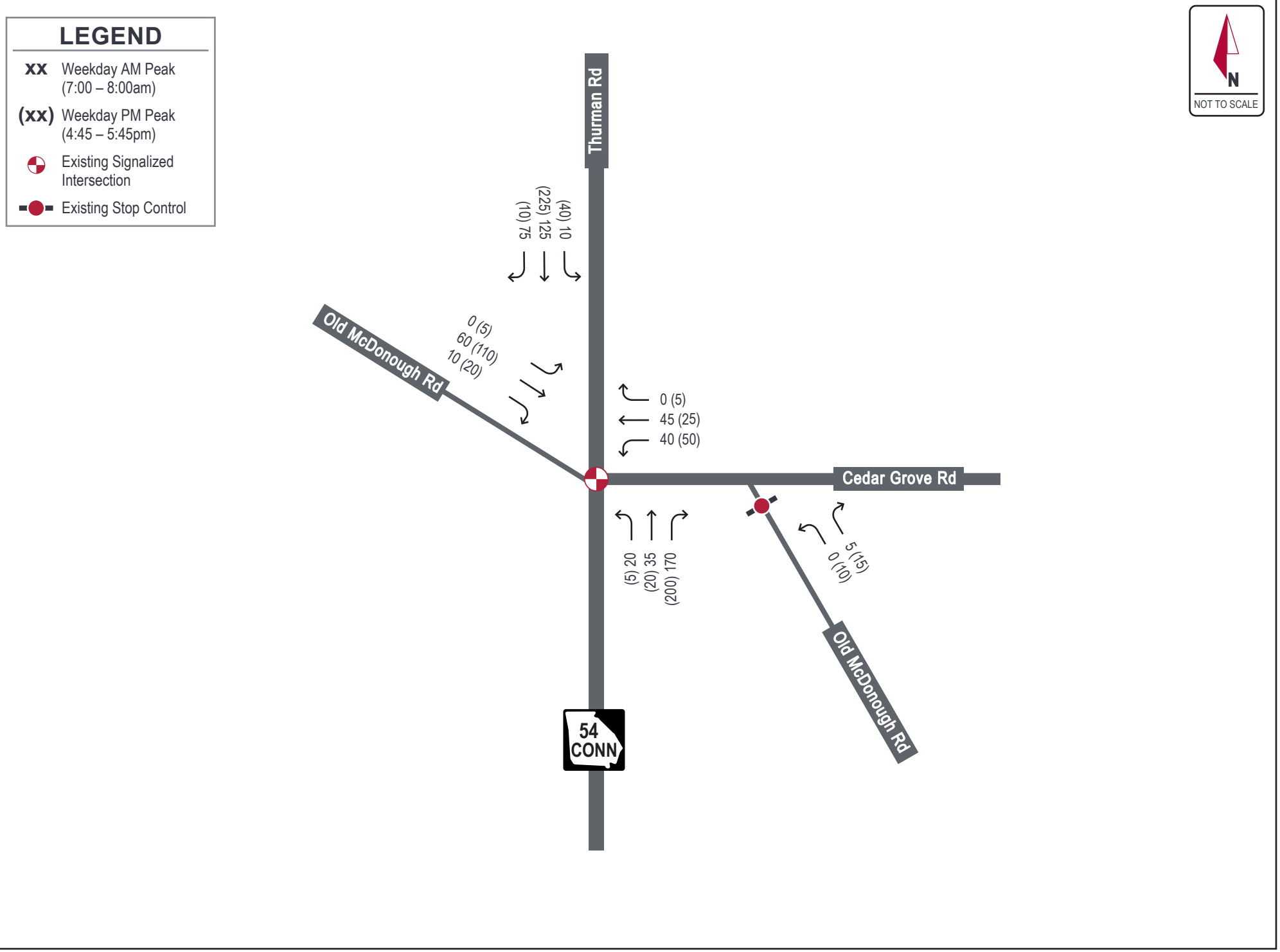
THURMAN ROAD (SR 54 CONN) AT OLD MCDONOUGH ROAD AND CEDAR GROVE ROAD

FIGURE 6: BASE (2028) PEAK HOUR TRAFFIC VOLUMES



Kimley»Horn

THURMAN ROAD (SR 54 CONN) AT OLD MCDONOUGH ROAD AND CEDAR GROVE ROAD

FIGURE 7: DESIGN (2048) PEAK HOUR TRAFFIC VOLUMES

No-Build Capacity Analysis

To evaluate No-Build conditions, volume projections were evaluated with the same geometry and model inputs as the existing conditions models. The same peak hour factors and pedestrian inputs used in the existing analyses were also used for the future analyses to provide a baseline comparison. The results of the No-Build capacity analysis for Thurman Road at Cedar Grove Road/Old McDonough Road and Cedar Grove Road at Old McDonough Road are summarized in **Table 6**. Synchro analysis worksheets are provided in **Appendix G**.

The results of the No-Build capacity analysis indicate that the intersection operates acceptably during both peak hours and has excess capacity. At the intersection of Thurman Road at Cedar Grove Road/Old McDonough Road, all approaches operate at LOS C or better for all scenarios.

The intersection of Cedar Grove Road at Old McDonough Road also operates acceptably, with little to no delay experienced on the major street approaches of Cedar Grove Road and the side-street approach of Old McDonough Road operating at LOS B for all scenarios.

Table 6: No-Build Analysis LOS and Delay

Intersection	Control	Year	Peak Hour	LOS and Delay (sec)					
				Overall	NB	SB	EB	WB	NWB
SR 54 CONN at Cedar Grove Rd/ Old McDonough Rd	Signal	2028	AM	B (15.3)	A (9.5)	B (10.2)	C (30.1)	B (17.0)	-
			PM	B (18.1)	B (10.4)	B (12.2)	C (29.8)	B (16.9)	-
		2048	AM	B (16.1)	A (9.9)	B (10.8)	C (31.9)	B (17.0)	-
			PM	B (19.0)	B (10.5)	B (12.9)	C (31.7)	B (16.9)	-
Cedar Grove Rd at Old McDonough Rd	TWSC[1]	2028	AM	N/A	-	-	A (0.0)	A (0.1)	B (10.2)
			PM	N/A	-	-	A (0.0)	A (0.2)	B (11.5)
		2048	AM	N/A	-	-	A (0.0)	A (0.1)	B (10.2)
			PM	N/A	-	-	A (0.0)	A (0.2)	B (11.5)

[1]For TWSC intersections, delay/LOS reported at major-street approaches is major-street left-turn movement delay/LOS

ALTERNATIVES EVALUATION

As part of this project, multiple intersection alternatives were considered and evaluated through various methodologies in order to determine the best improvement to serve future traffic conditions.

Intersection Control Evaluation

GDOT's Intersection Control Evaluation (ICE) process was established to provide "traceability, transparency, consistency, and accountability when identifying and selecting an intersection control solution that both meets the project purpose and reflects the overall best value in terms of specific performance-based criteria." An ICE is required for any intersection improvement proposed at a location for which at least one of the roadways of the intersection is a state route or for any project that is funded using state or federal funds. An ICE analysis was completed for the intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road to determine all intersection treatments that should be considered for implementation.

ICE policy includes two stages: 1) Screening Decision and 2) Alternative Selection Decision Record. The first stage is a screening effort conducted to inform which intersection alternatives are appropriate for further evaluation. This stage is meant to eliminate non-competitive options and to

identify which alternatives should be considered based on their practical feasibility. The second stage involves a more detailed evaluation of the alternatives identified in the first stage. This stage evaluates cost, traffic volumes, delay, environmental impacts, and stakeholder posture. This data is used to score the alternatives and to provide guidance on selecting the preferred alternative. ICE documentation is included in **Appendix H**.

Intersection Control Evaluation – Stage 1

The first stage of an ICE analysis is the Screening Decision, which is conducted to inform which intersection alternatives are appropriate for further evaluation based on the seven questions below.

1. Does alternative address the project need in a balanced manner and in scale with the project?
2. Does alternative improve safety performance in terms of reducing severe crashes?
3. Does alternative incorporate safety, convenience, and accessibility for pedestrians and bicyclists?
4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?
5. Does alternative appear feasible given the site characteristics, constraints, and location context?
6. Does alternative appear feasible with respect to other project factors?
7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?

23 intersection alternatives were evaluated as part of Stage 1, and 3 were selected for further evaluation in Stage 2:

- Single-Lane Roundabout
- Multilane Roundabout
- Install a southbound right-turn lane and a northbound left-turn lane

Intersection Control Evaluation – Stage 2

The second stage of an ICE analysis, the Alternative Selection Decision Record, involves a more detailed evaluation of the alternatives identified in the first stage. This stage evaluates planning-level cost estimates, traffic volume and operations, environmental impacts, stakeholder posture, and safety benefits estimated from observed crash data and identified crash reduction factors (CRF) to develop an Operations benefit-cost (B/C) ratio, a Safety B/C ratio, an ICE score, and a ranking for each alternative. Results from the second ICE stage are summarized in **Table 7**.

Table 7: ICE – Stage 2 Analysis Results

Alternative	Cost	CRF_{PDO}	$CRF_{I/F}$	Score	Rank
Single-Lane Roundabout	$5,344,000	24%	71%	8.7	1
Multilane Roundabout	$8,000,000	26%	71%	8.1	2
Install Turn lanes	$6,250,000	16%	13%	5.9	3

The single-lane roundabout was identified as the highest-ranking alternative, followed by the multilane roundabout. Though the multilane roundabout provides a greater CRF than the single-lane roundabout and provides slightly better operational improvement, the single-lane roundabout provides similar benefits in terms of operations and crash reduction and has a project cost estimate of $5,344,000 which is nearly $2.5 million less than the multilane roundabout. The turn lanes

alternative provides less operational and crash reduction benefits at a similar project cost estimate, resulting in a lower benefit/cost ratio as compared to both roundabout alternatives.

Build Alternatives

Based on a review of previous planning efforts, an analysis of existing conditions, and the intersection control evaluation, installing a single-lane roundabout that can accommodate heavy vehicle traffic is recommended for the intersection of Thurman Road (SR 54 CONN) at Cedar Grove Road/Old McDonough Road to address safety and operational deficiencies. Three roundabout concepts were analyzed as part of this analysis to determine the optimal design from an operations perspective. The design concepts for the proposed improvements are included in **Appendix I**. The following three concepts were evaluated:

- Build 1: four-leg roundabout with the northwestbound approach of Old McDonough Road converted to right-in-right-out operations
- Build 2: five-leg roundabout
- Build 3: five-leg roundabout with a right-turn slip-lane for the northwestbound approach of Old McDonough Road

Build Capacity Analysis

To evaluate the impacts of the proposed intersection improvements, intersection capacity analyses were completed for Build traffic conditions during the AM and PM peak hours using traffic projections for the Base (2028) and Design (2048) years. The roundabout alternatives were analyzed using SIDRA software. While intersection control and geometry were updated, Build scenario conditions were modeled with the same truck percentages, peak hour factors, and pedestrian inputs as the No-Build analyses. For the Build scenarios, unsignalized LOS criteria were used which are summarized in **Table 8**.

Table 8: Level-of-Service Criteria (Unsignalized)

LOS	Vehicle Seconds of Delay
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

The results of the operational analyses for the three build scenarios for the Build (2028) and Design (2048) years are summarized for the study area in **Table 9**. SIDRA analysis worksheets are provided in **Appendix H**.

Table 9: Build Analysis LOS and Delay

Build Scenario	Year	Peak Hour	LOS and Delay (sec)					
			Overall	NB	SB	EB	WB	NWB
Build 1	2028	AM	A (5.6)	A (5.5)	A (5.9)	A (6.4)	A (4.4)	B (11.2)
		PM	A (6.5)	A (5.6)	A (7.2)	A (7.5)	A (4.9)	B (11.1)
	2048	AM	A (6.1)	A (6.1)	A (6.4)	A (6.9)	A (4.6)	B (12.1)
		PM	A (7.4)	A (6.2)	A (8.3)	A (8.7)	A (5.1)	B (12.3)
Build 2	2028	AM	A (5.6)	A (5.7)	A (5.8)	A (6.4)	A (4.3)	A (8.0)
		PM	A (6.5)	A (5.8)	A (7.3)	A (7.4)	A (4.5)	A (6.1)
	2048	AM	A (6.3)	A (6.4)	A (6.5)	A (7.0)	A (4.5)	A (8.9)
		PM	A (7.4)	A (6.4)	A (8.4)	A (8.7)	A (4.7)	A (6.8)
Build 3	2028	AM	A (5.7)	A (5.8)	A (6.0)	A (6.3)	A (4.2)	A (7.4)
		PM	A (6.7)	A (6.0)	A (7.5)	A (7.3)	A (4.5)	A (5.9)
	2048	AM	A (6.4)	A (6.6)	A (6.7)	A (7.0)	A (4.4)	A (8.4)
		PM	A (7.6)	A (6.7)	A (8.7)	A (8.6)	A (4.7)	A (6.7)

The results of the Build capacity analysis indicate that delay and LOS will improve at the intersection in all roundabout scenarios. The intersection of Thurman Road at Cedar Grove Road/Old McDonough Road is anticipated to operate at LOS A with fewer than 8 seconds of delay during both peak hours of both future years. The northwestbound approach of Old McDonough Road is anticipated to operate at LOS B in the Build 1 scenario with right-in right-out operations but improves to LOS A in both five-leg roundabout scenarios of Build 2 and Build 3.

Network Delay

Network delay was evaluated for the study area using SimTraffic, which is a basic microsimulation model contained within the Synchro software package. SimTraffic models individual vehicles traveling through a roadway network and evaluates delays, queueing, travel times, and other measures of effectiveness (MOE). This provides a network-wide metric for comparing operational performance across the entire study area.

Total network delay (in hours) is summarized for each scenario in **Table 10**. SimTraffic reports are provided in **Appendix G**. The results of the SimTraffic analysis indicate that each alternative is anticipated to have similar reduction in network delay ranging between 5.5 percent and 9.7 percent in the base year and between 7.0 percent and 13.4 percent in the design year.

Table 10: SimTraffic Network Delay Results

Scenario	AM Peak Hour		PM Peak Hour	
	Base (2028)	Design (2048)	Base (2028)	Base (2048)
No-Build	18.7	20.4	20.8	22.3
Build 1	17.6	19.0	18.7	19.4
% Change from No-Build	*-5.5%*	*-7.0%*	*-9.7%*	*-13.0%*
Build 2	18.6	18.6	18.8	19.4
% Change from No-Build	*-0.5%*	*-8.6%*	*-9.4%*	*-12.8%*
Build 3	17.8	18.7	19.0	19.3
% Change from No-Build	*-4.6%*	*-8.3%*	*-8.5%*	*-13.4%*

Preferred Alternative

Utilizing the results from all analyses outlined in the above sections as well as feedback from stakeholder engagement efforts, the preferred alternative was identified as the Build 3 alternative which is a five-leg single-lane roundabout with a right-turn slip-lane for the northwestbound approach on Old McDonough Road. Considering each roundabout alternative performs similarly from an intersection LOS and network delay standpoint, the primary factors determining the preferred roundabout configuration are connectivity, truck/freight operations, and stakeholder feedback. The two five-leg roundabout alternatives (Build 2 and 3) provide full access to all intersection receiving legs from each approach, while the four-leg roundabout alternative (Build 1) restricts the northwestbound approach on Old McDonough Road to RIRO operations. The Build 3 alternative additionally provides an improved turning radius with the right-turn slip lane for the northwestbound approach as compared to the standard configuration in the Build 2 alternative, providing a better experience for trucks making that turning movement.

Lastly, all roundabout alternatives were presented as part of the stakeholder engagement efforts conducted with this project. The build alternatives were displayed in multiple meetings and discussed with potential users to determine the preferred configuration from the community perspective. The alternative that received the most positive feedback was the Build 3 alternative, with stakeholders citing it as the alternative that best addressed the connectivity and turning radii issues currently being experienced at the intersection.

A decision matrix combining all analysis results and stakeholder feedback was used to determine which roundabout alternative would be the best overall option for the study intersection. Each alternative was given a rank for each decision criterion 1 through 3, and then the total score for each alternative was calculated with the lowest score indicating the preferred alternative. The decision matrix is provided in **Table 11**. The results of the decision matrix indicate the preferred alternative is Build 3.

Table 11: Alternative Decision Matrix

Criteria	Roundabout Alternatives		
	Build 1	Build 2	Build 3
Intersection Delay (Synchro) Rank	1	2	**3**
Network Delay (SimTraffic) Rank	2	3	**1**
Stakeholder Rank	3	2	**1**
Total	6	7	**5**

CONCLUSION

Kimley-Horn and Associates, Inc., was retained by Metro South Community Improvement District (MSCID) to complete traffic engineering and roadway design services for the Cedar Grove Road/Thurman Road (SR 54 CONN)/Old McDonough Road Roundabout project, which was identified by the CID's Board of Directors as its second highest priority infrastructure project for transportation safety and operations. The purpose of the project is to implement roadway improvements that enhance operations and safety at the intersection of Thurman Road (SR 54 CONN) at Old McDonough Road/Cedar Grove Road in southwest DeKalb County.

The project study area is in the Conley community, located immediately south of the city of Atlanta, approximately 0.7 miles south of the I-285 interchange with SR 42 and approximately 6 miles south of the I-20 interchange with SR 42. The surrounding area is heavily industrial with high volumes of truck traffic, though much of the infrastructure in the area is inadequate for heavy vehicles. The pavement section of Old McDonough Road is unsuitable for commercial and industrial traffic loads. Intersection turning radii for several approaches are insufficient to accommodate heavy vehicles, leading to wide turning movements and lane blockages which were observed during the site visit.

Commercial and industrial growth is expected to continue in the study area and within the surrounding community via the Dekalb County CTP as well as the MSCID Freight Cluster Plan, leading to increased truck traffic at the study intersection. These plans identified the intersection of Thurman Road (SR 54 CONN) at Cedar Grove Road/Old McDonough Road as a critical location for improvement and recommended a roundabout as the preferred alternative.

Data collection, field reviews, stakeholder outreach, crash analyses, intersection capacity analyses, and network delay analyses were completed to understand existing conditions in the study area. The field review found that intersection striping is barely visible due to significant wear and the pavement and curb conditions are poor in several areas of the study intersection, leading to wide turning movements by heavy vehicles and conflicts with vehicles pulling past the stop bar. Feedback from stakeholder outreach confirmed many of these observations, while also providing additional insight into what drivers are experiencing at the intersection such as damage being caused to vehicles by the poor pavement and curb conditions and difficulty completing turning movements at the intersection.

The results of the existing capacity analysis for the study area show that the intersection operates acceptably during both peak hours with excess capacity. All approaches operate at LOS C or better in all existing and future year scenarios. Additionally, over the five-year crash history, a total of 33 crashes were reported in the study area, including 7 injury crashes. All crashes occurred at the intersection of Thurman Road at Cedar Grove Road/Old McDonough Road. Of the 33 crashes that occurred, 28 of them involved heavy vehicles. The predominant crash types reported at the intersection were sideswipe-same direction crashes, which occurred most frequently in the southbound direction, with the main cause being heavy vehicles making a wide right turn onto Old McDonough Road and hitting vehicles in an adjacent lane due to insufficient turning radii.

A GDOT intersection control evaluation was completed to determine if there were any other intersection treatments that should be considered for implementation—a single-lane roundabout, multilane roundabout, and turn lanes were the only viable ICE Stage 2 alternatives, and the single-lane roundabout was the highest ranked alternative.

Based on its ability to improve intersection operations from both an intersection LOS and network delay perspective, address observed crash patterns, and provide better facilities for heavy vehicle traffic, a single-lane roundabout was identified as the preferred treatment for the intersection of Thurman Road (SR 54 CONN) at Cedar Grove Road/Old McDonough Road. Specifically, the Build 3 alternative with the 5-leg configuration and right-turn slip lane on the northwestbound approach on Old McDonough Road was identified as the preferred concept for the single-lane roundabout based on feedback from stakeholder outreach as well as improved connectivity for all intersection approaches and improved turning radii for large truck traffic.

Appendix A:
Site Visit Photographs

Figure 1: Broken Pavement and Pothole in Northwest Intersection Corner

Figure 2: Sunken Curb and Pavement Condition in Southwest Intersection Corner

Figure 3: Truck Overtracking into Pothole Making a Southbound Right Turn

Figure 4: Truck Overtracking into Pothole Making a Southbound Right Turn

Figure 5: Faded Pavement Marking on West Leg of Intersection (Old McDonough Rd)

Figure 6: Faded Stop Bar Pavement Markings on East Leg of Intersection (Cedar Grove Rd)

Figure 7: Faded Stop Bar Pavement Markings on North Leg of Intersection (Thurman Rd)

Figure 8: Pooling Water and Poor Drainage in Northeast Intersection Corner

Figure 9: Southeast Intersection Leg Missing Stop Bar (Old McDonough Rd)

Figure 10: Eastbound Left-turn Queues at SR 42

Figure 11: Southbound Outside Lane Underutilization Due to Truck Blockage

Figure 12: Northbound Channelized Right-Turn Island

Figure 13: Westbound Channelized Right-Turn Island

Appendix B:
Project Engagement Summary

IN COLLABORATION WITH

DeKalb County
GEORGIA

THURMAN ROAD ROUNDABOUT PLANNING STUDY

STAKEHOLDER AND PUBLIC ENGAGEMENT SUMMARY

September 2025

Prepared by:

Kimley-Horn
Bihl-Engineering

ENGAGEMENT SUMMARY

This Stakeholder and Public Engagement Summary details the overall engagement and external communications efforts for the Thurman Road Roundabout Study..

PROJECT OVERVIEW

The Metro South Community Improvement District (MSCID) sought to develop a concept based on the feasibility and operational assessment of various roundabout design options at the existing five-legged intersection of Thurman (SR 54), Cedar Grove, and Old McDonough Roads.

The intersection was identified in the MSCID's *2016 Planning Study*, the Atlanta Regional Commission-funded (ARC) *MSCID Freight Cluster Plan* as a high priority transportation need, and as a long-range transportation project in DeKalb County's *Comprehensive Transportation Plan*. The project was funded through ARC's Regional Transportation Planning Study Program (AR-038-2425) and the Metro South Community Improvement District (MSCID). In support of transportation planning, traffic operational and safety analysis, and site investigation and data collection work for the project, stakeholder and public engagement was conducted by the project team at key points in the study's development.

PROJECT CONTEXT

Thurman Road (SR 54) is on the north and south approaches of the study intersection, Cedar Grove Road is on the eastern approach, and Old McDonough Road is on the western approach. The northbound Old McDonough approach is a stop condition and at a skewed angle, with its proximity only a few feet from the study intersection. The intersection is within a quarter-mile of Moreland Avenue (SR 42) and a half mile within I-285. There are more than a dozen truck terminals, warehousing, and logistics facilities as well as related service industries within a half-mile of the intersection. A recently redeveloped terminal site within a few thousand feet of this intersection has been permitted by DeKalb County as a new truck terminal, which includes a truck-driving school (these facilities have been in operation since 2022). Within a half-mile of this study location, a 3,000-space freight logistics center received zoning approval and a land disturbance permit in 2023.

PROJECT TEAM

PROJECT MANAGEMENT TEAM

The Thurman Road Roundabout was overseen by a Project Management Team (PMT) identified by the MSCID. In addition to MSCID, PMT members included the Atlanta Regional Commission, DeKalb County, and the consultant team.

The MSCID Project Manager was Larry Kaiser, the CID's Executive Director. Additional MSCID representatives who oversaw the Thurman Road design process include John Kranjic and Wayne Smith, the CID's Vice Chairman and CEO at FEPCO Container.

For the Kimley-Horn team, Adam Gomez, P.E., was the Project Manager. Civil Engineers Matt Dysko, P.E., and Jourdyn Fuga, P.E., RSP_{2B} supported the concept development for the project. Beth (Tucker) Smith, AICP, with Bihl Engineering is led stakeholder and public engagement efforts for the project.

CONSULTANT TEAM LEADS

MSCID was supported by a team of consultants led by Kimley-Horn, which included Bihl Engineering, Marr Traffic, and Platinum Geomatics.

Contact information for key consultant staff is listed below:

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Beth (Tucker) Smith
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PROJECT PHASES AND SCHEDULE

The Thurman Road Roundabout project is consisted of the following tasks:

PHASE 1

- Traffic Counts
- Environmental Screening
- Traffic Study – Existing and Proposed Conditions
- ICE Stage 1 & 2

PHASE 2

- Concept Alternative Development
- Operations & Safety Analysis
- Preferred Alternative Selection

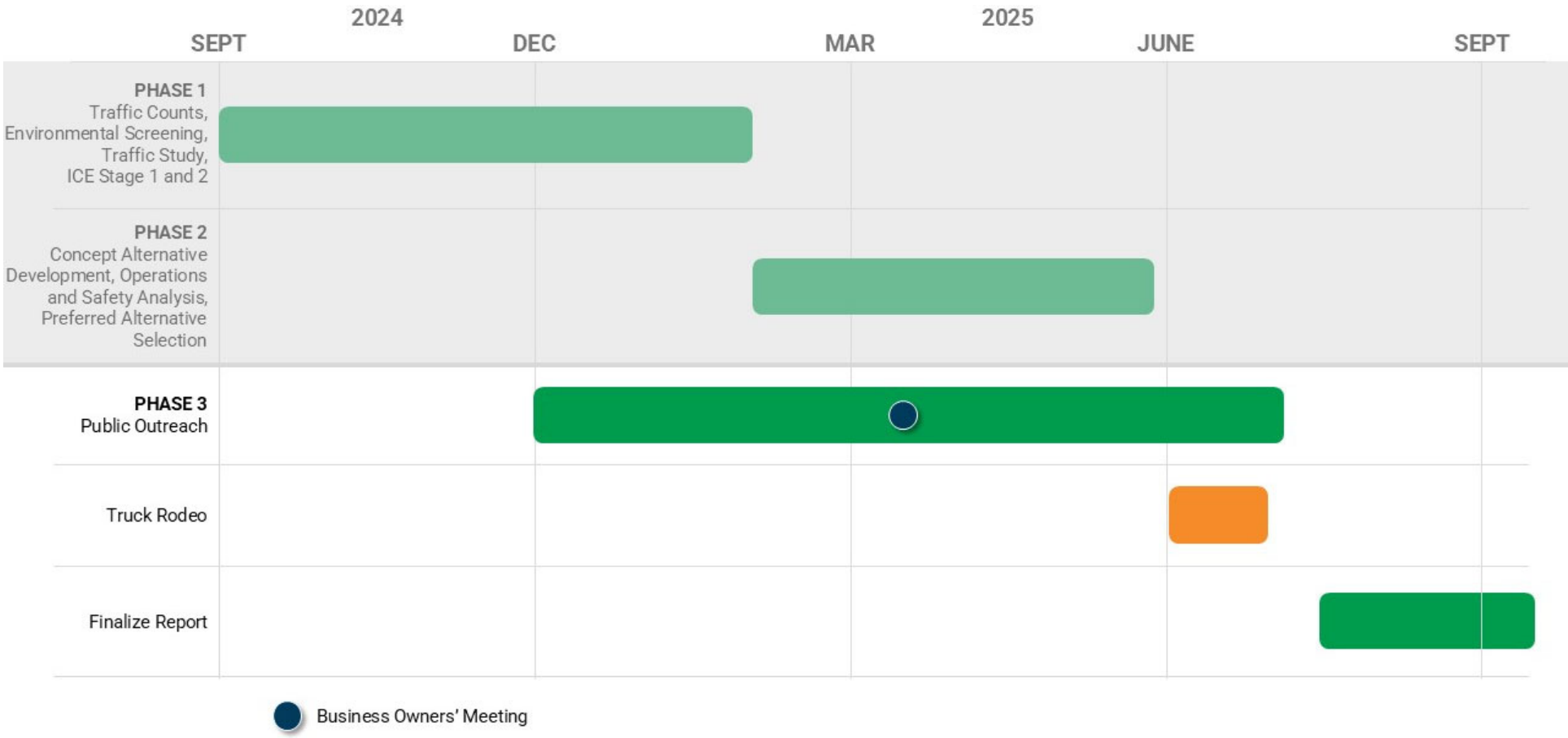
PHASE 3

- Public Outreach
- Truck Rodeo
- Finalize Report

The project began in September 2024 and was completed in October 2025. The study concepts were developed with a robust stakeholder and community engagement process. Stakeholder and public engagement efforts coincided with work in all phases, with the most critical stakeholder and public engagement activities taking place during Phase 3 work of the project.

The following graphic illustrates the overall project schedule.

PROJECT SCHEDULE



STAKEHOLDER AND PUBLIC ENGAGEMENT STRATEGY

GOALS AND OBJECTIVES

To develop viable and cost-effective solutions for the intersection and to study the feasibility of roundabout alternatives in improving the efficiency, operations, and safety of the intersection, MSCID identified the following project objectives:

- Maximize safety, connectivity, and efficiency at the five-legged intersection
- Address the existing and future needs for all users
- Maintain consistency with the vision and goals set forth in DeKalb County's Comprehensive Transportation Plan, Unified Development Ordinance and the Atlanta Regional Transportation Plan
- Develop an implementation plan to include timeline, material and cost estimates, and various concept design layouts, typical sections and renderings as necessary to apply for federal funds through ARC and advance to preliminary engineering phase

Stakeholder and public engagement was conducted in support of these objectives, with a focus on ensuring a wide perspective of needs and desires were represented in final project recommendations.

Concepts for the Thurman Road Roundabout were shaped by input from stakeholders/the public through a variety of engagement and outreach techniques and strategies, which included a Stakeholder Steering Group (SSG), meetings with area business owners, a Truck Rodeo, interviews with local truck drivers, and digital media.

The Thurman Road Roundabout study had two realms of audiences: stakeholders and the general public. While there was some overlap between the two audience realms, the SSC meetings and targeted business community meeting were focused to engage key stakeholders. The truck driver interviews and digital engagement were focused on engaging the general public.

KEY STAKEHOLDERS

The key stakeholders for the study area included the Georgia Department of Transportation (GDOT), DeKalb County Department of Transportation (DOT), the MSCID Board of Directors, and the numerous freight logistics, warehousing, and distribution companies within 1 radial mile of the study intersection who utilize this intersection on a regular basis.

STAKEHOLDER STEERING GROUP

The SSG consisted of members identified by the PMT, which included representatives from:

- DeKalb County DOT
- MSCID Board of Directors
- MSCID business members
- Freight logistics, warehousing, and distribution companies within 1 radial mile of the study
- Regional freight logistics, warehousing, and distribution organizations or agencies
- Relevant ARC groups (Freight, Mobility, Transportation Demand Management, etc.)
- Disadvantaged communities-focused organizations

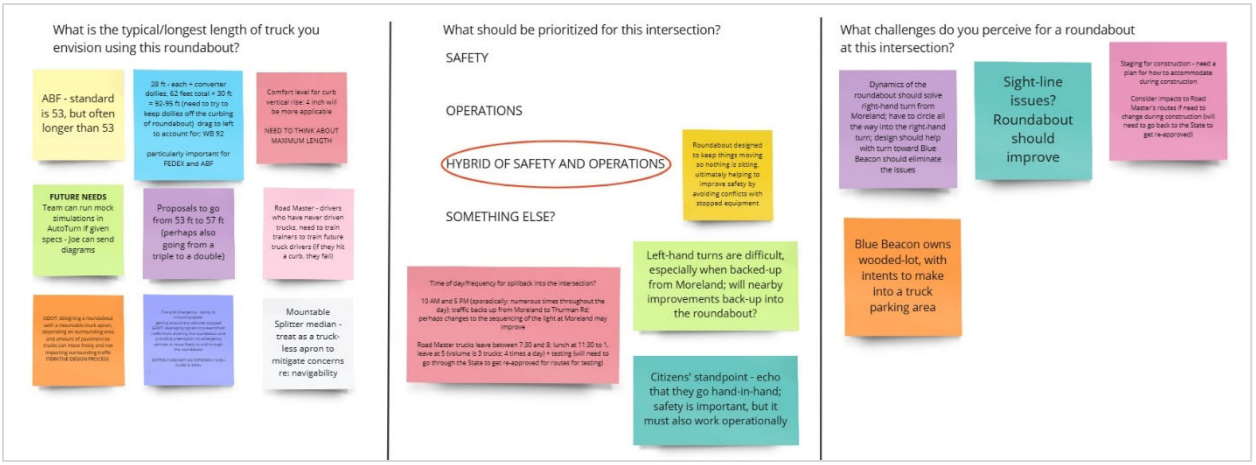
Stakeholder Steering Group Meeting #1

The first convening of the SSG took place virtually on December 6, 2024. Representatives from the MSCID Board, ARC, GDOT, DeKalb County DOT, and DeKalb Fire as well as area business owners and Homeowners' Association leaders/residents were in attendance.

The project team provided an overview presentation that covered details on the study's background and context, existing conditions (crash history, traffic analyses, environmental screening turning movement counts, and site physical constraints), general roundabout education, and the engagement process for the Thurman Road Roundabout project.

Following the presentation, the project team facilitated a discussion using Miro (a whiteboard ideation platform) with SSG participants. The discussion was tailored to gather key information and insights that the project team needed from the SSG to help guide the initial design of potential alternatives for the future roundabout at the Thurman Road intersection.

The project team gathered input from the SSG in three main categories: anticipated roundabout use, design priorities, and identified challenges (a larger export of the Miro discussion is included in the Appendix of this report).



The project team prompted input related to potential roundabout use by asking: "What is the typical/longest length of truck you envision using this roundabout?" Participants—particularly those in the freight and logistics industry—provided details about truck specifications, and this information led to additional input related to the physical design and needs of the future roundabout.

- Trucks envisioned to use this roundabout are typically 53 feet long (which is the standard for many of the area business owners), but, some were considering to leverage longer fleets of 57 feet.
- For FedEx and ABF—some of the heaviest users of the intersection, there is a need to account for at least 92 to 95 feet, when accounting for converter dollies and articulation.
- As far as the roundabout's curb, 4 inches in height was envisioned to be the most comfortable, with an emphasis on a soft and not "extremely high" curb being ideal.
    - GDOT noted that they are working on roundabout designs for a mountable truck apron to support free truck movements without impacting surrounding traffic.

- Road Master, a local driving school, noted that there is a need to train their trainers on roundabout usage, particularly whichever design is settled for the Thurman Road roundabout, so they can train future truck drivers.
- DeKalb Fire noted that circumnavigation of the roundabout using their fire and emergency vehicles was paramount, especially the ability to navigate around any vehicles that may be stopped in the roundabout.
    - GDOT notes that in some cases, they were leveraging signals to prevent or halt traffic from entering the roundabout while providing pre-emption to emergency vehicles to access the roundabout.

The project team led the design priorities discussion by offering some potential priority options (Safety, Operations, Hybrid of Safety and Operations, Something Else). As the SSG discussed the various options, the group determined that the priorities amongst all the various users was likely a "Hybrid of Safety and Operations." Many participants echoed that their priority was ensuring that the roundabout was designed in a way to keep things moving/prevent anything from sitting (either within the roundabout or any of the approach legs), which would ultimately help improve safety by avoiding conflicts due to stopped vehicles.

In addition to this priority, participants also noted:

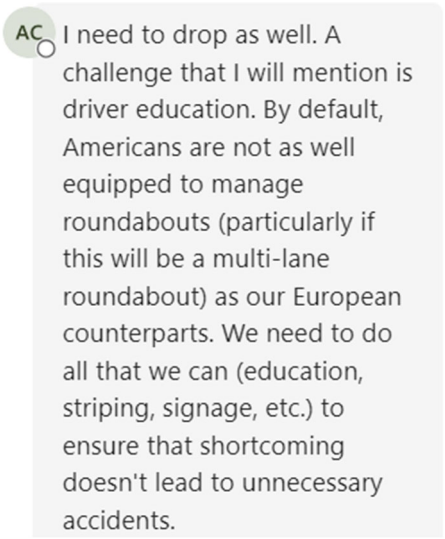
- Left-hand turns at the nearby Moreland Avenue intersection are particularly difficult—especially during heavy back-up periods—and need to ensure that improvements done at that intersection would not create back-ups in this future roundabout.
- In regards to heavy traffic periods, spillback into the intersection typically occurs between 10 a.m. and 5 p.m., and that these back-ups occurred sporadically or at numerous times during this period—perhaps correlating with the light sequencing on Moreland Avenue.
    - There is also some potential correlation to area activity due to Road Master's training schedule, which also corresponds to the peak periods that the group noted.
        - However, to change the Road Master training schedule, the school would need to get approval from the State to alter the routes they use to test truck driver candidates on in the area.
- Area residents echoed the need to balance safety and operations in the future roundabout design, particularly with a focus on how commercial and non-commercial vehicles coexist in the roundabout.

To gather input on area challenges that may not otherwise be identified through the project team's data-driven existing conditions analyses, the project team prompted the SSG to provide input on any challenges they perceive with implementing a roundabout at this intersection:

- There are currently sight-line issues, which they hope the roundabout would address/resolve.
- A roundabout may potentially address the issues currently experienced when turning right from Moreland, which causes users to circle around to make the turn.
    - This issue was noted to be particularly problematic when turning into the Blue Beacon Truck Wash facility.
- The Blue Beacon is a high-driver of area back-ups, with trucks waiting to enter the facility causing long and frequent back-ups into the intersection, and addressing this issue is needed to keep the roundabout functional.

- The Blue Beacon owns a wooded lot near the intersection, with potential plans to convert the area into a truck parking lot, which may further increase truck traffic in the area.
- Construction staging may be a challenge when the roundabout is implemented to ensure that area freight and logistics businesses can remain efficient.
- Road Masters also echoed the need for coordination during construction as any impacts to their routes would need to go to the State for approval if alterations are needed.

In the chat feature of the virtual meeting, a local resident also noted the need to provide general education on how to use a roundabout for all drivers, which could include educational campaigns as we all as physical installations through striping, signage, and other mediums.



The input gathered from the first SSG meeting was provided to the design team to complement their data-driven, technical analyses and to incorporate into the design of potential alternatives for a roundabout at the Thurman Road intersection.

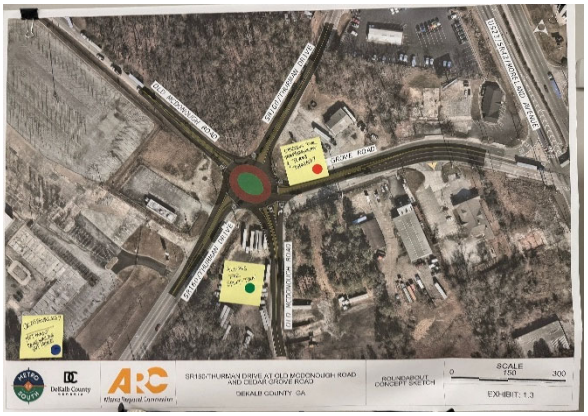
Business Owners' Meeting

The project team worked with the PMT to identify a cohort of area business owners who could help guide the development of potential alternatives. Representatives from the MSCID Board, ARC, FEPCO Container Division, AAA Truck Sales, Inc., QUALA, B.A.H. Express Inc., Heavy Load Express/HLA Logistics, and Homeowners' Association leaders/residents were in attendance. The meeting took place in-person at the MSCID office on March 27, 2025.

The project team provided an overview presentation that covered details on the study's background and context, existing conditions (crash history, traffic analyses, environmental screening turning movement counts, and site physical constraints), general roundabout education, and the engagement process for the Thurman Road Roundabout project. The presentation also covered at a high-level 4 potential alternatives for the Roundabout at Thurman Road: Exhibit A – Modern Roundabout Offset West (1.1), Exhibit B – Modern Roundabout Offset North (1.2), Exhibit C – Modern Roundabout Elliptical (1.3),

Exhibit D - Peanut Roundabout (1.4). These alternatives were displayed on large boards for participants to review in greater detail.

The project team facilitated a discussion with the business owners group about the four concepts, the benefits and challenges of each option, and any desired modifications or revisions to the designs needed to make the designs feasible for the intersection.



In general, the group was receptive to the various roundabout options and offered the following feedback on each option (categorized as ●benefit, ●challenge, and ●neutral/note):

- **Exhibit A – Modern Roundabout Offset West (1.1)**
  - The design forces a right from Old McDonough Road, providing an option to easily enter the roundabout to make a left-like movement is needed. ●
  - Concerns about spillback from the Blue Beacon Truck Wash in the northern portion of the area./roundabout. ●
  - The double left at Moreland Avenue is a challenge, that may present issues for the future roundabout. ●
    - Signal timing at Moreland Avenue may help resolve issues at the Thurman intersection. ●
- **Exhibit B – Modern Roundabout Offset North (1.2)**
  - Concerns about potential conflicts with the utility pole at the corner of Old McDonough Road and Thurman Drive. ●

- This design better supports the left-hand turn at Moreland Avenue that many try to make. 🟢
- To address the forced-right-turn from Old McDonough Road, the design team should explore a right-turn slip lane. 🔵

- **Exhibit C – Modern Roundabout Elliptical (1.3)**
  - Consider opportunities for crosswalks/pedestrian considerations in the design. 🔵
  - This option does not force a right-hand turn from Old McDonough/allows for a split-turn from this approach. 🟢
  - Concerns about transmission lines and trucks turning at the Grove Road approach. 🔴
- **Exhibit D - Peanut Roundabout (1.4)**
  - This design may be too cumbersome/unique for most drivers—particularly freight drivers unfamiliar with the area and roundabout option—to maneuver. 🔴
  - Trucks leaving Moreland Avenue would need to make a three-part maneuver to navigate this area. 🔴

In addition to the input provided on the presented concepts, participants shared concerns that a roundabout—or, a roundabout alone—may note resolve the issues they experience at this intersection. This sentiment was shared in relation to queueing that is experienced due to truck drivers waiting to enter the Blue Beacon Truck Wash, which participants noted "stops the entire road, so, none of this matters." When participants asked what the anticipated timeline for implementation was for the roundabout, the project team suggested 5 to 10 years; participants asked what could be done in the interim to resolve the queuing issues. The project team proposed creating an interim solution that would provide a truck bay to move queuing trucks off from the travel lanes, which would then be incorporated into the final roundabout design, and participants were in favor of this idea.

The group also encouraged the design team to heavily consider not only the current demand, but, projected/anticipated demand based on known—and, potential—development, stating that demand for freight and logistics in this area is only expected to increase.

ARC and resident participants also suggested considering opportunities to safely support pedestrians in this area.

Stakeholder Steering Group Meeting #2

The second SSG meeting took place virtually on June 3, 2025. Representatives from the MSCID Board, ARC, GDOT, DeKalb County DOT, and DeKalb Fire as well as area business owners and Homeowners' Association leaders/residents were in attendance.

The project team provided an overview presentation that covered high-level details on the study's background and context, existing conditions, concept development, and stakeholder feedback received for the Thurman Road Roundabout project.

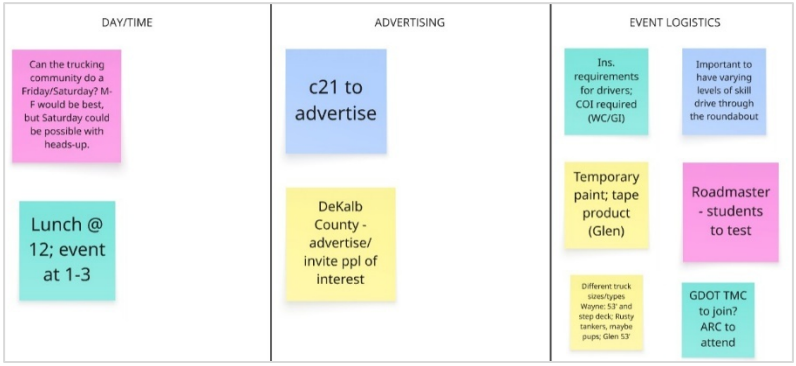
Following the presentation, the project team facilitated a discussion using Miro (a whiteboard ideation platform) with SSG participants. The discussion was tailored to gather key information and insights that the project team needed from the SSG to help advance concept development, including a preferred alternative and interim solution for the future roundabout at the Thurman Road intersection. The discussion also gathered input from the SSG on the Truck Rodeo the project team was planning to help provide a demonstration of the preferred alternative.

The project team gathered input from the SSG on the preferred alternative in five main categories: Safety, Operations, Cost, Community Impact, Other (a larger export of the Miro discussion is included in the Appendix of this report).

In general, the group was receptive to the preferred alternative and proposed interim solution and offered the following feedback in each category:

- **Safety**
  - No feedback was provided
- **Operations**
  - Concerns if the queueing from the Blue Beacon Truck Wash would impact the roundabout design if not otherwise addressed.
- **Cost**
  - Concerns on how this alternative compared with the other alternatives in relation to cost.
    - Appreciated that the interim solution would offer relief at the intersection before the full buildout of the roundabout as well as would be included in the final roundabout design (to avoid wasted cost).
- **Community Impact**
  - Emphasized the need to consider not only the current—and known—development, but also potential future growth of the area based on long-term projections.
- **Other**
  - Concerns on over addressing the current issues experienced at the Blue Beacon Truck Wash if that site changes uses over time.
  - Desire to work with the County to incorporate future requirements that developments fund needed improvements.

The SSG also provided feedback to the project team related to planning the Truck Rodeo event in the following topic areas: Day/Time, Advertising, and Event Logistics.



- **Day/Time**
  - Sensitivity to truck drivers being willing to participate during non-working hours; weekday lunch time event recommended.
- **Advertising**
  - MSCID's advertising consultant, c21, to leverage a multi-pronged approach, including emailed invites, media outreach, and social media to promote the Truck Rodeo.
  - DeKalb County Communications can help amplify the CID's advertising.
- **Event Logistics**
  - The site owner requested a Certificate of Insurance for all drivers at the event as well as temporary treatment to outline the roundabout.
    - Participants offered a temporary tape product that they have also used for similar needs.
  - Desire for the event to showcase trucks of different lengths and types (freight, emergency, towing, etc.) as well as truck drivers of different skill levels.
    - Desire to reach out to Road Master to see if students could participate.
  - Desire to have GDOT, ARC, and other regional partners to attend to support event—and project—visibility.

The input gathered from the second SSG meeting was provided to the design team to incorporate into the design of preferred alternative and interim solution for a roundabout at the Thurman Road intersection, including for the alternative to be demonstrated at the Truck Rodeo.

Truck Rodeo

The Truck Rodeo was designed to serve as a live, real-time demonstration of the preferred alternative. This event offered those in the freight and logistics industry in the area, as well as area residents, to experience the preferred alternative at scale. The Truck Rodeo also offered the project design team the opportunity to observe the concept being used by drivers of different skill levels and in various large freight, emergency, and towing vehicles—these observations were incorporated into the final concept design.

In addition to the driving demonstration, the Truck Rodeo also include a to-scale, tabletop demonstration of the preferred alternative, boards depicting the concepts under consideration as well as the preferred alternative and interim solution, drones to capture aerial imagery of the preferred alternative demonstration, and interviews with truck drivers in attendance.

The Truck Rodeo was held at the large parking area of 3501 Moreland Road, Conley, GA, on June 17th. More than 50 people attended the event, including MSCID Board members, DeKalb Fire personnel, representatives from ARC and GDOT, area business owners and residents, truck drivers, and journalists with 11 Alive News. The project team and communications 21 distributed the email invitation to the full list of stakeholders gathered for the project, as well as to a distribution list that the CID uses for regular communications, and communications 21's list of media contacts. The stakeholder distribution lists are included in the Appendix of this document.

The project team provided a to-scale, tabletop demonstration of the preferred alternative to all truck drivers driving the course to educate them on the alternative's operations.

Participants viewing the to-scale, tabletop demonstration of the preferred alternative.

Project Manager Adam Gomez providing a walkthrough of the to-scale, tabletop demonstration of the preferred alternative to 11 Alive News.

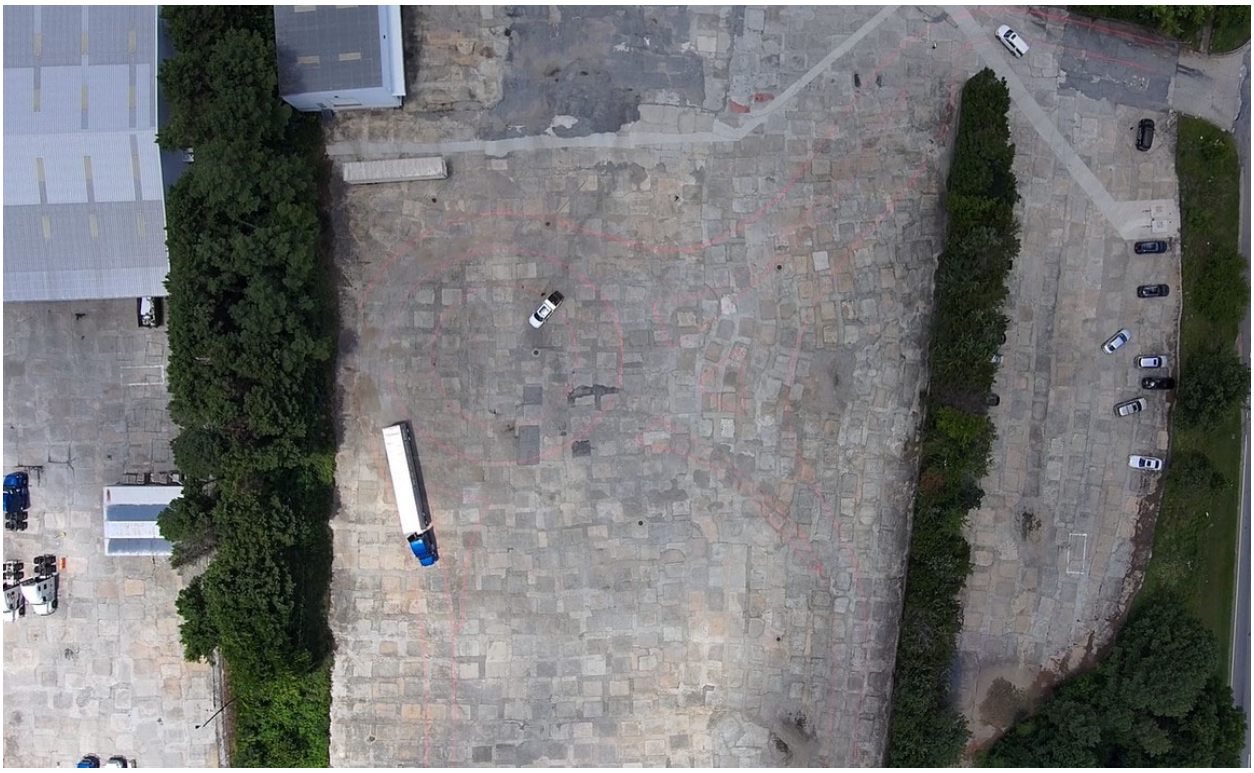
Below are pictures of the event and demonstration.

Project team member (right) and MSCID Board member (left) reviewing the concept boards.

Drone footage of the preferred alternative course.

Line-up of trucks to drive the preferred alternative course.

Equipment truck driving the preferred alternative course.



Drone footage of truck and vehicle driving the preferred alternative course.

The project team observed few needs to modify the preferred alternative design based on how the drivers operated the preferred alternative course.

The project team conducted interviews with some of the participating drivers to understand their general level of comfort and philosophy with driving through roundabouts. Interviewees were asked the following eight questions:

1. Approximately how many roundabout intersections have you driver your tractor-trailer through in the past year?
2. Have you received previous instruction or training on how to drive roundabouts?
3. If you answered "yes" to the previous question, where did you receive the direction on how to drive a roundabout? (Employer, Private Course, Self Discovery, Public Meeting/Brochure, Other)
4. How do you prefer to drive through a multi-lane roundabout? (Straddle both lanes, Stay in Lane)
5. When approaching a roundabout, do you block out adjacent traffic so that you can drive through the roundabout without other vehicles next to your cab and trailer?
6. When driving through a roundabout, do you prefer to use the outside lane only, the inside lane only (including truck apron area), or use both lanes?
7. When making a left-turn at a multilane roundabout, which lane do you choose to enter the roundabout and circulate through the roundabout to complete the left turn?
8. Describe your approach for navigating the proposed roundabout.

Five drivers participated in the survey, with two completing the interview together. The following are some high-level statistics gleaned from the truck driver interviews (the full response collection of these interviews is included in the Appendix of this document):

- Average Years of Experience Driving Trucks: 15.45 years, with a few as 3 months and as many as 32 years
- Average preferred truck length: 62.5, with three responding greater than 60'
- Q1: Average Number of Roundabouts Driven Through: 7.5, with as few as 0 and as many as 20
- Q2: Three out of four have not received any instruction on how to drive through a roundabout, with 1 receiving instruction from a driving instructor
- Q4: Three out of four prefer to stay in the lane when driving in a multi-lane roundabout, with one of those three noting "unless it is an emergency"; 1 prefers to straddle
- Q5: Three out of four prefer to block out adjacent traffic
- Q6: Two out of four prefer to use the outside lane only, 1 prefers to use both the inside and outside lanes, and 1 stating it depends on the context of the roundabout.
- Q7: Three out of 4 prefer to enter the roundabout from the inside lane when making a left-turn at a multilane roundabout.

The 11 Alive News article of the event is included in the Appendix of this document.