4.0 MTTC Needs Assessment

4.1 Peer Transit Center Assessment

The project team reviewed several transit centers from around the United States to gather important lessons learned from other transit agencies and communities that have recently planned and built a centralized transit center to serve as the hub of transfer activity. The initial list of candidate peer facilities was narrowed to four peer facilities that aligned well with StarTran's operational parameters and with the objective and goals of the MTTC Feasibility and Concept Design Study. The peer facilities include Des Moines Area Regional Transit Authority (DART) Central Station, City Utilities of Springfield, Missouri – Transit Center, Sioux City Transit System – Martin Luther King Jr. Transportation Center, and The Plaza Transit Center, Spokane Washington. Each of these examples provide unique transit center configurations and elements that could be incorporated into planning and design of the future MTTC. Information for the peer analysis was gathered through online research and through phone interviews conducted with staff from each of the peer transit agencies if available.

Table 3: Peer Transit Facility System Comparison

	StarTran	DART	Springfield, MO	Sioux City, IA	Spokane, WA
Annual Ridership	2,378,652	4,580,613	1,320,307	920,774	10,920,193
Total Fixed Routes	14	28	14	10	44
Service Area Square Miles	93	163	95	53	248
Service Area Population	280,364	374,910	189,257	122,128	423,267
Annual Operating Budget	$12,858,078	$27,969,531	$9,169,987	$4,617,693	$63,744,282

Source: National Transit Database (2017 – most current data available)

Table 3 above provides statistics for each of the transit system's operations selected for the peer transit center analysis. The four systems selected present a wide range of operating environments in terms of transit system size, number of routes, service area size, and annual operating budgets. Each of these transit system's transit centers offer interesting aspects to consider for the MTTC.

4.1.1 Des Moines Area Regional Transit Authority (DART) – Central Station

Facility Overview:

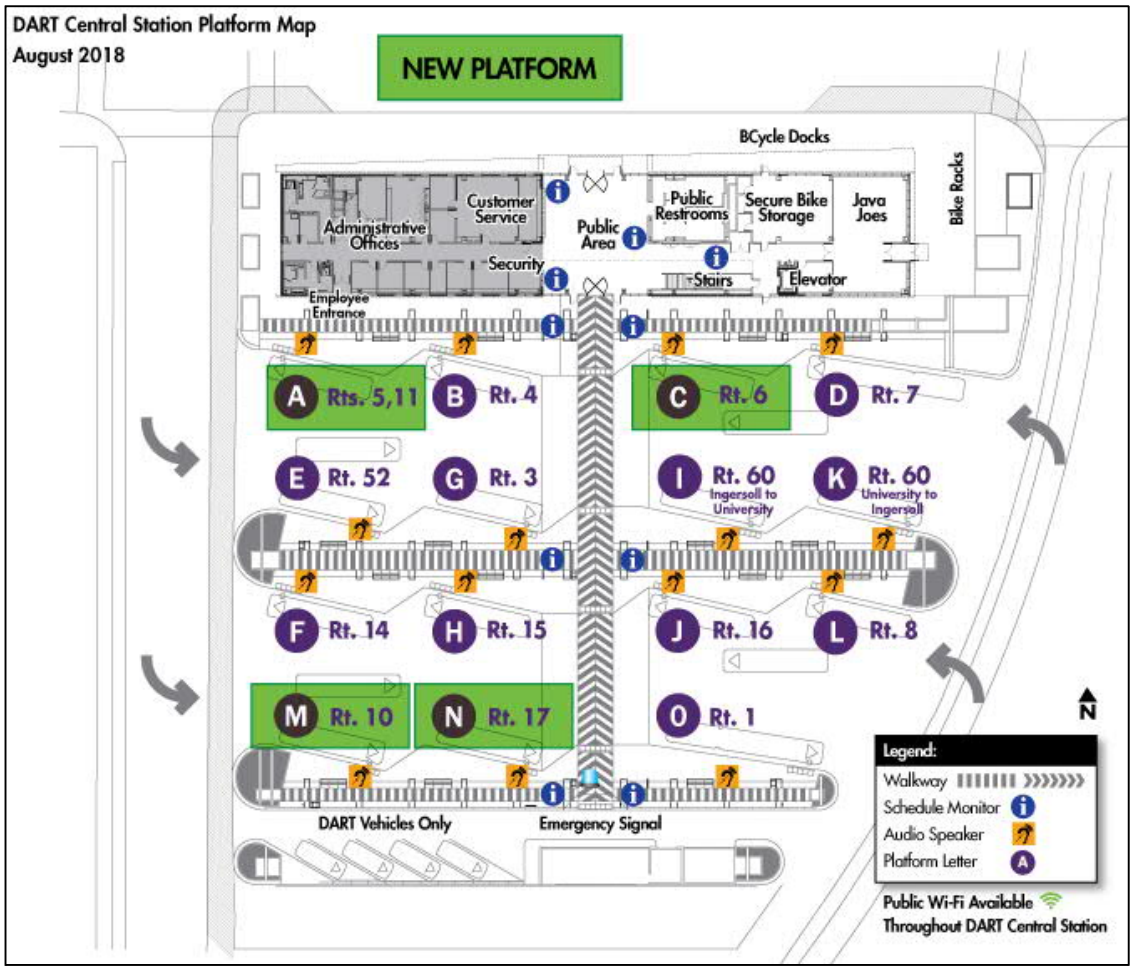
DART Central Station (Figure 23) is the primary transfer center for the Des Moines regional fixed route public transit system that replaced an aging 'transit mall' along Walnut Street in downtown. DART is a bus-based transit system with 17 fixed routes, 7 express routes, shuttles and flex routes serving over 15,000 daily riders on an average weekday. Of these 30 routes, 15 provide service to Central Station. The Central Station transit center facilitates 5,600 boardings on an average weekday making it by far the highest single boarding location in the Des Moines metro.

Figure 23: DART Central Station

DART's Central Station is also the home for the agency's management and operations staff on the second floor. The ground floor offers an indoor passenger waiting area with a customer service station as well as a local coffee shop and subscription-based bicycle storage facility. The facility provides access to multiple modes of transportation including bus, bicycle rental, electric scooters, and pedestrians. A layout of the DART Central Station facility and bus boarding platforms is presented in Figure 24.

Central Station was planned and designed as a sustainable transit facility. The Central Station facility was certified as LEED (Leadership in Energy and Environmental Design) Platinum, the highest LEED certification offered by the United States Green Building Council. The facility includes solar panels, seventy geothermal wells for heating and a 20,000-gallon rainwater cistern for grey water uses like flushing toilets. The rainwater recovery system has saved over 4 million gallons of water usage for grey water and landscape irrigation since opening. The LEED elements in Central Station have realized significant costs in utilities for electrical, water, and heating/cooling.

Figure 24: DART Central Station Waiting and Boarding Platforms Layout



Source: DART

Key Lessons Learned

A phone interview was conducted with DART CEO, Elizabeth Persutti and Keith Welch, Central Station Operations and Maintenance Director to gather insights from the planning, design, and operations experience in Des Moines. These included:

- Use a community and rider base input process to understand needs of patrons across a diverse group of users including those with mobility challenges.
- Set clear goals for the outcome of the facility to define how the transit center should perform and meet prioritized needs. It is critical to understand safety, efficiency, and sustainability.
- Central Station was important to change perception of DART and public transit in Des Moines. It was important in the planning phase to create advocates for the project.
- Consider both capital costs and ongoing maintenance in planning and design of a transit center.
- Fully enclosed boarding areas drive up capital costs due to mitigation for birds, air quality, and other issues. Recommend covered, but open-air bus boarding platforms with an enclosed passenger waiting area.
- Look for balance when selecting materials for finishes between upfront capital cost and long-term durability. Floors of central station are polished concrete and most walls are a stone finish – resulting in higher up-front cost but have been more durable than dry-wall and have lower maintenance costs.

- If including public restrooms for passenger waiting area, use an open-door entry/exit concept to help reduce illicit activities. Also, have cleaning staff to clean and inspect hourly throughout operating hours. Plan for this staff position in operations cost. DART budgets $500,000 annually for operations of the Central Station facility.
- Build redundancy into the facility if transit staff offices are co-located. Natural Gas generator provides electric back up. Also, include office space for dispatch operations in case separate bus operations and maintenance facility were to lose power.
- Include space for a security office that has clear view of passenger waiting and boarding platforms.
- Video monitoring is highly effective, but data storage for video has been a challenge. Plan for adequate data storage space for video feeds.
- Develop partnerships with local police department for off-duty officers to contractually provide on-site security at highest volume hours of the day.
- It's easier to include public art pieces directly into the facility than stand-alone pieces.
- Carefully consider pedestrian and transit passenger flow in and around transit center, especially boarding areas to limit conflict points of buses and passengers for safety.
- USB charging was added later, and it would be ideal to provide more locations.
- Plan for intercity bus boarding point, even if intercity bus companies may not seem interested at first. May want to serve location after opening. Allow for flexibility later.
- Begin asking questions in customer satisfaction surveys early in process related to transfer facilities to set a good baseline to monitor change over time.

4.1.2 City Utilities of Springfield Missouri – Downtown Transit Center

Facility Overview:

Figure 25: Springfield, MO Downtown Transit Center

Source: mopublictranist.org

The City Utilities Department of the City of Springfield, Missouri manages and operates The Bus public transit system. In the spring of 2016, The Bus opened a new Downtown Transit Center to serve as the central fixed route transfer location for the 12-route transit system (Figure 25). The facility provides indoor customer waiting areas and a fully covered passenger loading platform that can accommodate 14 transit vehicles. Two of The Bus's routes do not serve the downtown transit center. The Bus transit system carried nearly 4,500 average weekday passengers in 2017 according to the National Transit Database.

The downtown transit center's indoor waiting area has a customer service window for transit pass sales and has a kiosk for Springfield residents to pay utility bills. Also available are real-time next bus arrival screens, free public Wi-Fi, driver's lounge, USB charging ports, bicycle repair station, and bicycle lockers. The building also contains office space and a public meeting room that may be rented for public events.

Key Lessons Learned

To gain further insights of important lessons learned concerning the planning, design, construction/operation of the Springfield Downtown Transit Center a telephone interview was conducted with Matt Crawford, Transit Director for City Utilities Department of the City of Springfield. The following were important items noted from the interview:

- The site location process can be highly challenging. From initial transit center planning to groundbreaking for the project was ten years, largely due to complications in locating a site for the new facility.
- Public restrooms, while very popular with customers, are very costly in terms of ongoing cleaning and maintenance. They also allow space for illicit activities that can be difficult to monitor. The Director highly recommended not installing publicly available restrooms.
- Transit has agreement with local police department to have officer on site several hours a day for security purposes.
- Consider installing leaning rails over benches. Provides comfort to waiting passengers, while not providing a place to lay down.
- If bus ticket vending machines (TVM) are installed, only have TVMs accept cards. Cash makes the TVM a potential target for theft and has lower maintenance costs.
- Work with other city departments and local organizations to understand if there are reoccurring street closures where transit center site is selected. If there are multiple street closures per year for festivals or other purposes, it can be very disruptive to daily operations.
- Plan for passenger/pedestrian flows in and around the transit center to limit as many potential conflict points between buses and pedestrians to increase safety.

4.1.3 Sioux City Transit – Martin Luther King Jr. Transit Center

Facility Overview

Sioux City Transit hubs its transit network from the Martin Luther King Jr. Transportation Center located in downtown Sioux City Iowa (Figure 26). Fixed route transit services are operated on weekdays only on 10 routes that serve Sioux City, and South Sioux City Nebraska and provide service to the MLK Jr. Transportation Center. All routes are scheduled to pulse at the transit center at 20 minutes after each hour to facilitate transfers between all routes in the system. Sioux City Transit's offices are located in the facility as well.

Figure 26: Martin Luther King Jr. Transportation

The transit transfer center is covered and located on the ground floor of a five-story parking structure. Buses enter from both the north and south sides of the facility on a bidirectional track. The transit area has space for passenger ticket sales, covered waiting area for transfers and 8,200 square feet of retail space around the ground floor perimeter of the building. Public art and bicycle racks have been installed in the sidewalk areas.

The parking garage can accommodate 472 parking spaces. Parking rates are:

- 1st hour and weekend parking FREE
- Hourly rate $.75
- Daily maximum $5.25
- Overnight parking (7 p.m. to 7 a.m.) $3
- Weekend parking FREE
- Monthly contract parking $50 per month

The center is multimodal and provides connections to taxis and intercity bus travel through Jefferson Lines. The MLK Jr. Center is connected into the downtown's climate-controlled skywalk system for access to the greater downtown area in winter and other inclement days.

Key Lessons Learned

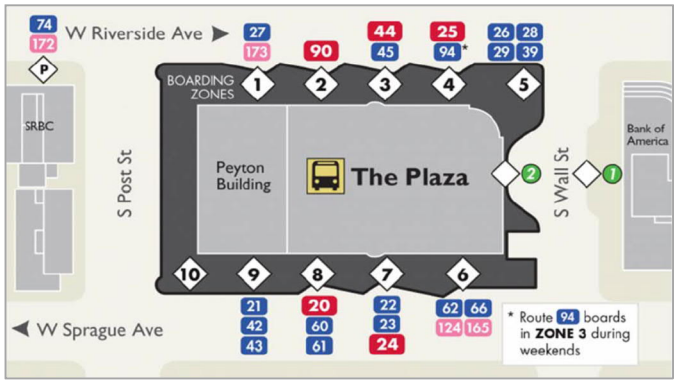
Study team members reached out to Sioux City Transit for further discussion concerning the planning, development, construction, and ongoing operations of the MLK Jr. Transit Center, but were unable to connect with staff from the agency to conduct the needed interview.

4.1.4 Spokane Transit Authority – The Plaza Transit Center

Facility Overview

The Spokane Transit Authority (STA) Plaza, located in the city's central business district, is the region's busiest passenger transportation center. Currently, 28 of STA's 40 routes affect passenger operations at or near the Plaza at W. Riverside and Wall Street using a staggered pulse system to facilitate transfers (Figure 27). The facility opened in 1995 and today serves over 10,000 daily riders. Prior to construction of the STA Plaza, Spokane Transit's downtown bus operations were dispersed outdoors along downtown streets obstructing storefronts and congesting sidewalks. Customer service and security offices are housed in the building. Amenities at the facility include a convenience store, Subway restaurant, local pizza chain, and a Metro PCS store. Spokane has three other transit hubs. The Plaza is the only hub with indoor waiting areas.

Figure 27: STA Plaza Transit Center - Route Boarding Assignments



Source: Spokane Transit Authority

Images from STA Plaza Transit Center:

Figure 28: STA Plaza Customer Service

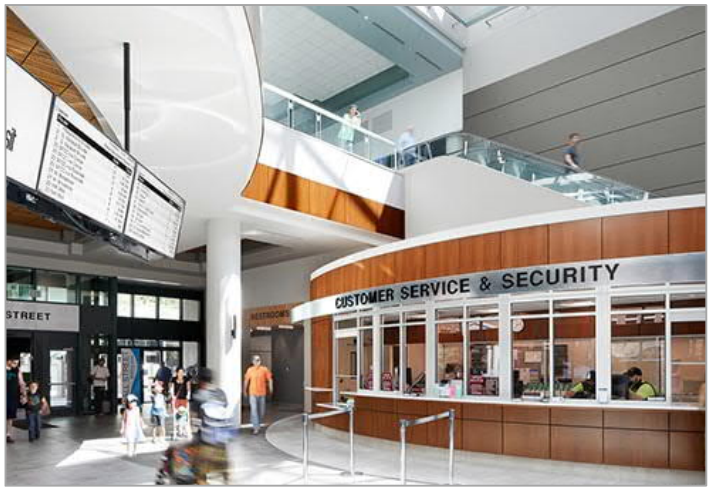


Figure 29: STA Plaza Transit Center Boarding Area

Figure 30: STA Plaza Transit Center Indoor Waiting

Key Lessons Learned

- System and schedule design should be taken into account, and re-evaluated when developing major transit facilities.

- Ensure supporters continue to express support even during difficult times that surely come when making any significant investment.
- Be sure facilities are designed to meet customer needs.
- In 2017 Spokane completed a major renovation of the building that included moving passenger services, such as the customer service shop, restrooms, and retail vendors, to the first floor. Also, as much as technology helps people with real-time information, if you plan indoor components of the transit center, be sure to have bus loading areas visible from indoors, otherwise people will feel obliged to wait outside for their bus (major complaint in 1995 and rectified with new indoor waiting areas in 2017).

Table 4 below provides a side by side summary of the peer transit center analysis.

Table 4: Peer Transit Center Analysis Summary

	DART Central Station Des Moines, IA	Downtown Transit Center Springfield, MO	MLK Jr. Transit Center Sioux City, IA	The Plaza Transit Center Spokane, WA
Address	620 Cherry Street Des Moines, IA	211 N. Main Ave Springfield, MO 65806	505 Nebraska St. Sioux City, IA 51101	701 West Riverside Avenue, Spokane, WA 99201
Year Opened	2012	2016	2003	July 16, 1995
Total Facility Cost	$20.5 million	$5.1 million	$11.6 million	$20 Million ($1995) $ 5 Million renovation in 2017 All project costs from local sources (fare revenue, local sales tax, funding from state motor vehicle excise tax)
Project Funding Sources	• Federal - $16.5 million (Mix of TIGER and State of Good Repair Sources) • Local - $4 million (State of Iowa funding)	• Federal – 80% • Local – 20%	Data unavailable	Data unavailable
Approximate Site Size	1.6 acres	2.65 acres	1.1 acres	1 acre
Transit Modes Served	• Bus • Bike Share and storage • Pedestrian • Transit Center was located adjacent to freight rail lines in the eventuality Amtrak service was ever rerouted through Des Moines and provide flexibility to serve as an intercity rail depot	• Bus • Bicycle • Pedestrian • Park and Ride	• Bus • Auto • Bicycle • Intercity Bus • Taxi	Bus
Number of Routes Accommodated	17 Routes	14 Routes	10 Routes	28 Routes (Loading Platforms for ten buses per pulse)
Other Accommodations	• Coffee shop integrated into facility	• Indoor heated/cooled waiting	• Public art included around facility	• Customer Service / Security counter

	• Staffed information, ticket sales and customer service • Covered passenger loading/unloading area • Real-time bus arrival information • Upper floor for DART administrative offices • LEED Platinum facility • Public restrooms • Secure indoor bicycle storage facility • Free public Wi-Fi • Public meeting space	• Public restrooms • Office space for dispatch, customer service, and road supervisors • Community meeting room • Real-time arrival information • Ticket Vending Machine • Public Utilities payment kiosk • USB charging stations • Public Wi-Fi • Bicycle storage and repair • Platform rain garden with native plantings • Connectivity to cycle track	• Direct connection to downtown skywalk system	• Indoor waiting area • Real-time rider information • Restaurant / Retail space • Conference room • Connection to skywalk system • Public art/streetscaping
Notes		Funding for the Downtown transit center was largely secured through a congressional earmark in 2006, prior to the end of congressional earmarking. Project funds were administered by the Federal Transit Administration through the Region VII office in Kansas City.		Transfers occur curbside in sawtooth bus bays on three sides of the block surrounding a building on an approximate one-acre site.

4.2 Needs Assessment

The MTTC project's overall purpose was to develop a feasibility design concept for StarTran that would result in a recommended location and conceptual layout that will provide covered passenger boarding areas, interior passenger amenities, connections between passenger platforms, and connection with other modes of transportation.

The MTTC study conducted a comprehensive transit center needs assessment to provide definition of the operations and functional needs at the future facility. This assessment was used to define the infrastructure capacity required to support the new MTTC and serve as the programmatic baseline of requirements to determine the scale of the development needed for the site selection process. The purpose of the needs assessment was to understand the sizing of the MTTC to sufficiently serve all transportation and facility needs of the proposed center. As part of the early stages of this study, the study team developed a questionnaire consisting of key design questions and considerations which addressed a wide range of topics, goals, objectives, concerns, and opportunities related to this project. These questions were issued to StarTran for their further distribution to key stakeholders associated with this project. StarTran received the comments from stakeholders and consolidated them into a point-by-point response and returned those to WSP. Below is a consolidated list of the key stakeholder's objectives and goals generated from the questionnaire:

1. Develop and plan a concept for the new MTTC in downtown Lincoln that will:
    a. Enhance StarTran passenger experience.
    b. Prioritize safety.
    c. Catalyze new economic development opportunities.

    d. Attract federal capital funding.
2. The MTTC needs to allow for growth and a possible mixed-use facility with partnering opportunities.
3. The MTTC should be in operation in five years (approx. 2024).
4. Success of this project is dependent on finding the right location.
5. It is undesirable to include parking garage elements and high-noise levels.
6. It is desirable to include the following amenities at this facility:
    a. Public restrooms
    b. Driver restrooms
    c. Indoor waiting area
    d. Staffed ticket booth
    e. Passenger information
7. The following are non-transit specific functions which are desirable at this facility:
    a. Possible private development
    b. TOD such as coffee shop or restaurant
8. Desired inter-modal connectivity elements at this location include:
    a. Buses
    b. Pedestrians
    c. Cyclists
    d. Electric scooters
    e. Uber/Lyft
    f. Inter-city commuter bus
    g. Bus rapid transit
    h. Autonomous vehicles
9. The following are desired adjacencies or connectivity to other key elements in the City of Lincoln.
    a. Proximity to University of Nebraska-Lincoln
    b. Police presence at the facility (possible sub-station)
10. The following are important features of material finishes for walls, floors, ceilings for both interior and exterior.
    a. Durable
    b. Vandal-resistant
11. Security measures to address include:
    a. Crime Prevention Through Environmental Design (CPTED)
    b. Ballistic resistance per UL for front desk and reception area
12. This project should set LEED Certification as a goal and should include responsive design solutions for stormwater control, energy conservation, water conservation, and green power, among the other LEED requirements.

4.2.1 Project Requirements

The project team received input and comments on the project requirements from key stakeholders via StarTran staff, in order to identify the desired operation and function requirements and building systems. Each stakeholder set guidelines, operational needs, and proposed uses of the MTTC. The study team also considered the needs of alternative fuel vehicles, future modes of transportation, and vehicle storage. The information projected in the sections below are a functional, space-by-space assessment of what is needed to allow the proposed MTTC to fully support the growth and expansion of a comprehensive transportation network in the City of Lincoln.

Exterior Transportation Program Requirements

Bus Transit

The proposed MTTC plans to offer Bus Rapid Transit (BRT), local bus service, regional bus service, inter-city bus service, and Paratransit service on site. These bus services would be offered by StarTran and Greyhound or another inter-city bus operator. Transit operations plans intend for bus service to operate on a pulse transfer system. StarTran is considering development of a BRT corridor service in the coming years that could offer a high frequency route with enhanced passenger amenities. Future BRT plans are not yet defined; however, for planning purposes at this facility, two bi-directional routes with ten-minute headways will be accommodated.

StarTran currently has four electric buses and another six electric buses will be delivered later in 2020, the agency may consider the proposed MTTC as a designated charging station. If desired, details of electric power needs, charging equipment, and charging locations within the MTTC will be determined in the next phase of the project. Local and regional buses would range in length from 35 to 45 feet, but the site program should be configured to accommodate articulated buses in the future. Paratransit buses would range in length from 20 to 27 feet. A sawtooth design is preferred for bus platforms and boarding areas to allow for consistent bus route bay locations for passenger convenience and independent vehicle movement for operational efficiencies. BRT loading areas should accommodate 60-foot articulated buses, and it is assumed that level boarding criteria should be applied to the platform areas on BRT service. It is StarTran's expectation that the bus waiting areas are fitted out for canopy coverage, radiant heat, wind protection, benches, trash cans, information panels, audio and visual announcements, Wi-Fi, etc. Sizing requirements for all bus bays and platforms can be found in the table below.

Table 5: Bus Bay / Platform Needs

DESCRIPTION	QTY	UNIT SIZE (NET SF)	TOTAL AREA (NET SF)
StarTran Fixed Route Bus Bays, 40' Bus	20	520	10,400
Paratransit Bay, 25' Bus	2	400	800
Intercity Bay, 45' Bus	1	520	520
BRT Bay, 60' Bus	4	680	2,720
TOTAL PLATFORMS	27		
TOTAL BAYS	27		

StarTran intends to allow bus operator breaks to occur at this location; therefore, layover space has been designated to stage the non-operations bus in a location outside the revenue bays. No BRT layover space is expected for this site. StarTran intends to conduct bus operator shift change at this location. While the operators will not drive/park at this location, there will need to be site accommodations for the vehicle to drop off and pick up bus operators. In addition, StarTran requires parking on-site for a field supervisor vehicle and a security vehicle. Parking for administrative staff will need to be coordinated off-site. No public parking is planned as part of this project. Sizing requirements for these spaces can be found in the table below.

Table 6: Transit Layover Spatial Needs

DESCRIPTION	Number of Layover Spaces	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
StarTran Service Vehicle Space	1	200	200
StarTran Staff Space	20	200	4,000
StarTran Supervisor Space	1	200	200
Security Vehicle Space	1	200	200
StarTran Layover for Operator Break Time	2	520	1,040
Shift Change Van Space	1	200	200
Total			5,840

Vehicle Queuing for Non-Transit Vehicles

StarTran and partnering agencies proposing to use the MTTC will require some organized layer of queuing locations at or near the site. The on-site pickup and drop-off areas should have high visibility internally and externally at the MTTC so riders can wait in sheltered areas or inside during inclement weather. The adjacent queuing areas should reduce congestion on the roads around proposed MTTC and needs to accommodate vehicle queuing during surge loads related to peak loads and surges generated by events, while not impairing passenger and pedestrian movement on the site. Additionally, considerations for future technology and mobility alternatives are to be considered. All pickup and drop-off locations for vehicles will be compliant with City of Lincoln traffic control guidelines. Sizing requirements can be shown for all queuing and pickup and drop-off needs in the table below.

Table 7: Queuing Spatial Needs

Queuing Need	Number of SPACES	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
Autonomous Vehicle	4	160	640
Electric Vehicle Charging Station	4	200	800
Queue Area for Waiting Rideshare	4	350	1,400
Drop-off and Pick-up for Rideshare	2	480	960
Total	10		3,800

First-Mile / Last-Mile Needs

Allocation of space for existing and future modes of First-Mile/Last-Mile forms of transportation are programmed at the MTTC. Considerations have been made for bicycle racks, bike- and scooter-share staging areas, and their strategic locations at the proposed site to identify this location as a bike-friendly facility. These staging and trailhead outpost locations should be well lit, sheltered, and close to site entrances and exits. Sizing requirements can be shown for bicycle and micro-transit needs in the table below.

Table 8: First-Mile/Last-Mile Spatial Needs

Description	Quantity	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
Scooter Staging Area	20	8	160
Dockless Bike Staging Area	20	12	240
Bike-share	10	18	180
Bicycle Rack	20	12	240
Bicycle Locker	8	21	168
Trailhead Outpost			
Total Bikes and Scooters	50		
Total Bicycle Storage	28		
Total Space			988

Parking

StarTran has indicated an interest in incorporating parking at this location for users other than StarTran staff. At this time the quantity of parking or the type of parking (revenue vs. non-revenue) has not yet been determined.

Table 9: Parking Table

Description	Spaces	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
Revenue Parking	0	350	
General Parking	0	350	
Car-Share	4	200	800
Electric Vehicle Charging Station			
Total Parking			800

General Exterior Services

In addition to transit functions, the proposed design of the MTTC should find ways to activate its public exterior space. StarTran would like to provide space for artwork areas and a public gathering space (forum). Other services include general site lighting, Closed Circuit Television (CCTV) cameras, audio announcement system, trash and recycling collectors, irrigation, maintenance storage for de-icing, snow removal, landscaping, and a secure and enclosed emergency generator. StarTran has also requested incorporation of a clock tower feature in the design concept. Sizing requirements for all general services can be found in the table below.

Table 10: General Exterior Services

Description	Quantity	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
Public Gathering Space	1	400	400
Trash and Recycling Enclosure	1	240	240
Exterior maintenance storage	1	350	350
Generator	1	800	800
Dedicated Artwork Location	1	400	400
Bioswale and Surface Rainwater Processing Area		TBD	TBD
Designated Smoking Area	1	400	400
Green Space		TBD	TBD
Total Space			2,590

Interior Transportation Program Requirements

Interior Transit

StarTran anticipates an interior, air-conditioned passenger waiting area at the MTTC which should accommodate 40 seated and 60 standing passengers (100 total). Desired amenities include bench seating, lounge seating, TV, transit information monitors, vending, direct access to restrooms, and passenger assistance interface. In addition, StarTran will locate administrative functions at this facility, so necessary office functions and support spaces are to be provided. StarTran bus operators will take their breaks at this facility and will require a breakroom and possibly a wellness / fitness room. The bus operator breakroom will also be available to maintenance staff at the facility. Additional passenger services should include both staffed and automated services for ticketing, route planning, and general information.

Table 11: Interior Transit, Passenger Services

Description	Quantity	Capacity	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
Passenger Ticketing	1	2	120	120
Self-service Kiosks	3	0	40	120
Men's Passenger Restroom	1	4	240	240
Women's Passenger Restroom	1	4	240	240
Family Restroom	1	1	60	60
Shared Men's Passenger Restroom	1		36	36
Shared Women's Passenger Restroom	1		36	36
Total		9		852

StarTran plans to have office space in the proposed MTTC. This space would include 15 offices, reception area, staff breakroom, conference room, copy and marketing rooms, office storage space, and restrooms. Each office should have space for a desk and electrical outlets. The reception area should have waiting chairs and a side table. The conference room will hold a 15-person area, have a presentation system and connected monitors, tables, and chairs. This space will also hold a shared office space for all other agencies using the MTTC. Sizing requirements of the office space and associated facilities can be seen in the table below.

Table 12: StarTran Administrative

Description	Quantity	Total Capacity	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
StarTran Office Reception	1	1	160	160
StarTran Admin Waiting	1		120	120
StarTran Staff Restroom: Men	1	2	180	180
StarTran Staff Restroom: Women	1	2	180	180
StarTran Nursing Room	1		64	64
StarTran Staff Conference Room	1	15	225	225
Conference Room Storage	1		100	100
StarTran Office a	3	3	150	450
StarTran Office b	9	9	120	1,080
StarTran Staff Break Room	1		180	180

Description	Quantity	Total Capacity	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
StarTran Copy Room	1		108	108
StarTran Marketing Room	1		210	210
StarTran Materials Storage	1		48	48
StarTran Supplies	1		30	30
StarTran Seasonal Storage	1		128	128
Custodial Space	1	1	60	60
Partner agency Shared Office	1		120	120
Total		33		3,443

StarTran plans to offer private restroom facilities, break areas, and a quiet room for StarTran drivers. Spatial requirements for these areas can be seen in the table below.

Table 13: StarTran Bus Operators

Description	Quantity	Capacity	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
Driver's Restroom: Men	1	2	180	180
Driver's Restroom: Women	1	2	180	180
Passenger Services Toilet	1		60	60
Driver Breakroom	1	12	320	320
Driver Quiet Room	1	1	64	64
Wellness Room	2		240	240
Men's Locker Room	1		100	100
Women's Locker Room	1		100	100
Men's Shower Room	1		40	40
Women's Shower Room	1		40	40
Total		24		1,260

Interior Non-Transit

StarTran and the City of Lincoln want to attract people to the proposed MTTC beyond transit uses. Some form of a mixed-use center with a multi-modal component would be a plus for this type of facility. Space for Transit Oriented Development (TOD) has been set to incorporate restaurants, commercial shops, office space, market areas, and general services; however, none of the uses have been quantified at this time. Additionally, there is a preference for locating a police sub-station at this location. The amount of TOD space will be determined when a site is selected and accommodated if a preferred site has the space to include in the MTTC's program. General interior spatial requirements of the proposed MTTC can be seen in the table below.

Table 14 - Interior Non-Transit

Description	Quantity	Capacity	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
Police sub-station	1	4	120	120
TOD-Retail			TBD	TBD
TOD-Food/Drink			TBD	TBD
TOD-Commercial			TBD	TBD
Residential			TBD	TBD
Vending Machines	4		10.5	42
IT Room	1		60	60
Electrical Room	1		200	200

Description	Quantity	Capacity	Unit Size (Net Feet^2)	Total Area (Net Feet^2)
UPS Room	1		100	100
Mechanical Room	1		400	400
Fire Suppression and Pump Room	1		50	50
Total				TBD

General Interior Requirements

General services provided in the MTTC include environmental conditioning, lighting and electrical power, data, voice, and telecommunication. The MTTC as a City facility will require fiber so a plan should be developed to route conduit from roadway per the City's wiring standard, plus adequate space inside the mechanical room. The site will need to provide dedicated City fiber to this location to support the technology density. It is understood that StarTran desires card reader access control on doors and security CCTV surveillance throughout the project area; however, further coordination is required to determine what interconnectivity is required for CCTV and access control with City of Lincoln emergency services.

Waiting Areas

The waiting areas should be in a strategic location near pickup and drop-off areas so users can see all arrivals and departures. These waiting areas should be well lit, have telecommunications and intercom capabilities, incorporate durable seating, tables for places to work, mobile charging stations, and trash and recycling receptacles. All modes of transportation will require Passenger Information Display Systems (PIDS) in waiting areas. Ticketing desks, self-serve kiosks, and restrooms should be near the waiting areas and customer services.

Restrooms

All restrooms will have ADA accessible stalls with toilet paper accessories, paper towel dispensers, baby changing stations, and sinks. The public restrooms will be in a central and easy-to-find location, be well lit, and have a high-impact, durable design to limit vandalism and deterioration. Family Restrooms will also be provided at each location of public restrooms.

Transit Staff Areas

Breakroom areas should have lockers for staff storage of coats / valuables during work hours, a kitchen with counter tops and ample cabinet space, a microwave, refrigerator, dishwasher, coffee machine, sink, icemaker, and seating and tables for staff. These spaces should be in proximity to exterior transit loading and unloading areas and have a quiet and relaxing environment with environmental conditioning.

Janitorial Areas

The janitorial closets should have a mop sink, shelves for cleaning supplies, and storage carts for mobile cleaning. They should be near restrooms for janitor convenience but hidden from public spaces.

Storage Rooms

The storage room should maximize linear feet of fixed storage shelving and flat files. Storage rooms should be organized to accommodate general office supplies, marketing materials, seasonal storage, etc. These spaces should be in secure areas near office space, away from building exteriors, and environmentally conditioned.

Conference or Multi-purpose Room

The meeting venue rooms should have a flexible capacity via operable partitions, provide capability in room HVAC and electrical systems to accommodate surge cooling for larger staffing loads, provide floor mounted power, have audiovisual presentation system, and storage space for chairs, tables, and benches. The room should have good acoustics and staged lighting.

Building Services Spaces

The building services spaces include electrical rooms, mechanical rooms, IT rooms, fire suppression rooms, pump rooms, etc. These spaces should accommodate the necessary equipment, panels, controls, clearances and access for maintenance, replacement of parts and services. The room should be secure, have no windows, hidden from public spaces, and be environmentally conditioned.

To determine the overall space and programming needs for the future MTTC, the study worked closely with StarTran staff and bus operators, along with stakeholders from the City. To help the study team better understand the needs, preferences and priorities of what elements and amenities should be included in the MTTC, a public outreach effort was also used to gain this input from a broad spectrum of Lincoln citizens.

4.3 Public Engagement and Survey Findings

Planning for the new MTTC was developed using an open and transparent process that gathered input from an Advisory Committee comprised of City of Lincoln staff from various departments, downtown stakeholders, transit riders and bus operators to help guide the study. StarTran also reached out to transit riders and the general public to gather information on their needs, preferences and priorities for a new downtown transit center. This outreach took two forms; first through an in-person event held at the Gold's transfer center (Figure 31) where representatives from StarTran and the study consultant team met with and discussed the project with StarTran riders as they waited to transfer between routes. The second method used to engage the public was through an online survey using the MetroQuest survey platform.

Figure 31: Public Engagement at Gold's Transfer Center, November 2019

The survey was designed to identify participant's priorities for the planned facility and to identify where participants begin and end their most common trips. The survey was made available online in both English and Spanish; and Vietnamese translation was available upon request. In addition to the online format, hard copy surveys were made available for in person meetings or upon request.

The success of using the platform, in terms of engaging as many people as possible, depended on informing the public and stakeholders about its availability. Therefore, an outreach campaign was conducted to direct people to the MetroQuest page. This effort included positioning the survey

opportunity on the StarTran website project page, StarTran Facebook page, news release, links in e-mails to stakeholders, promotion through presentations, public meetings, and other communications efforts. The MetroQuest site was available from November 7 to December 31, 2019.

Survey Input Results

There were 593 surveys completed through the MetroQuest site. Five screens were used to inform survey visitors about the MTTC Study and to solicit input around priorities for the new facility. The five screens were Welcome, Priority Ranking, Budget Allocation, Trip Pattern Mapping, and Demographic Questions. The following includes key takeaways from the input received.

Survey Welcome:

The first survey screen provided information about the MTTC Study, the Study's goals, and shared how input would be used to help guide the selection of a new transit center site as well as passenger amenities (Figure 32). There were 1,146 visits to both the English and Spanish versions of the MTTC MetroQuest survey site. Visitors are those who may read information but do not provide input (participants).

Top Ranked Priorities:

The first interactive survey activity through MetroQuest was the ranking of MTTC Study goals (Figure 33). Participants were asked to consider eight goals and rank three of them in order of most important to least important.

Figure 32: MetroQuest Survey Welcome Screen

Figure 33: MetroQuest Survey - Rank Study Goals Screen

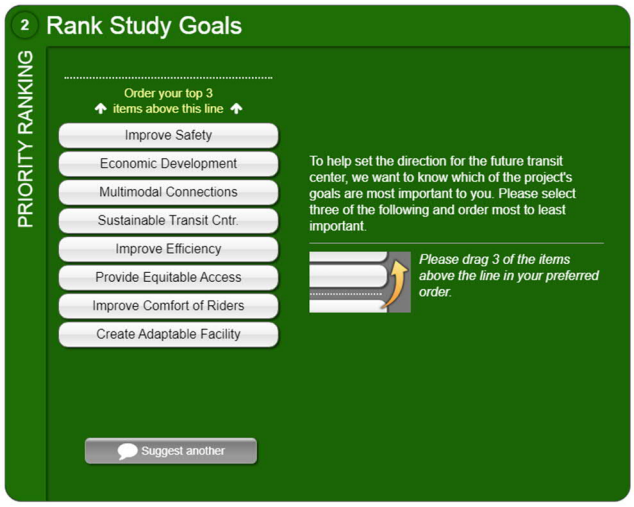
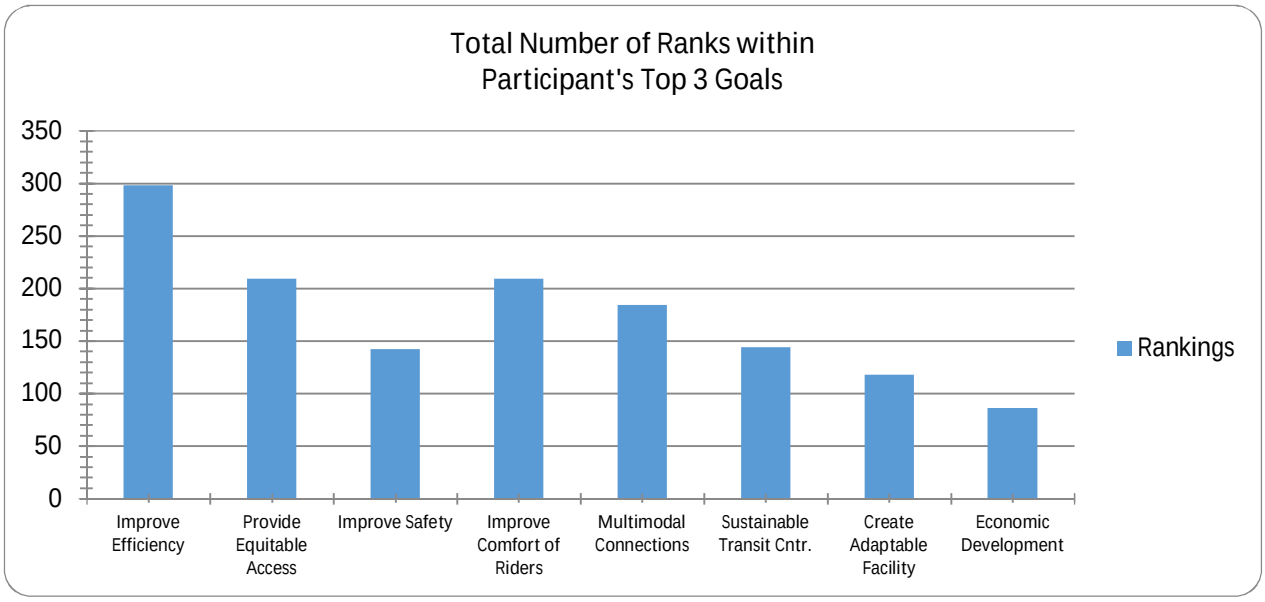
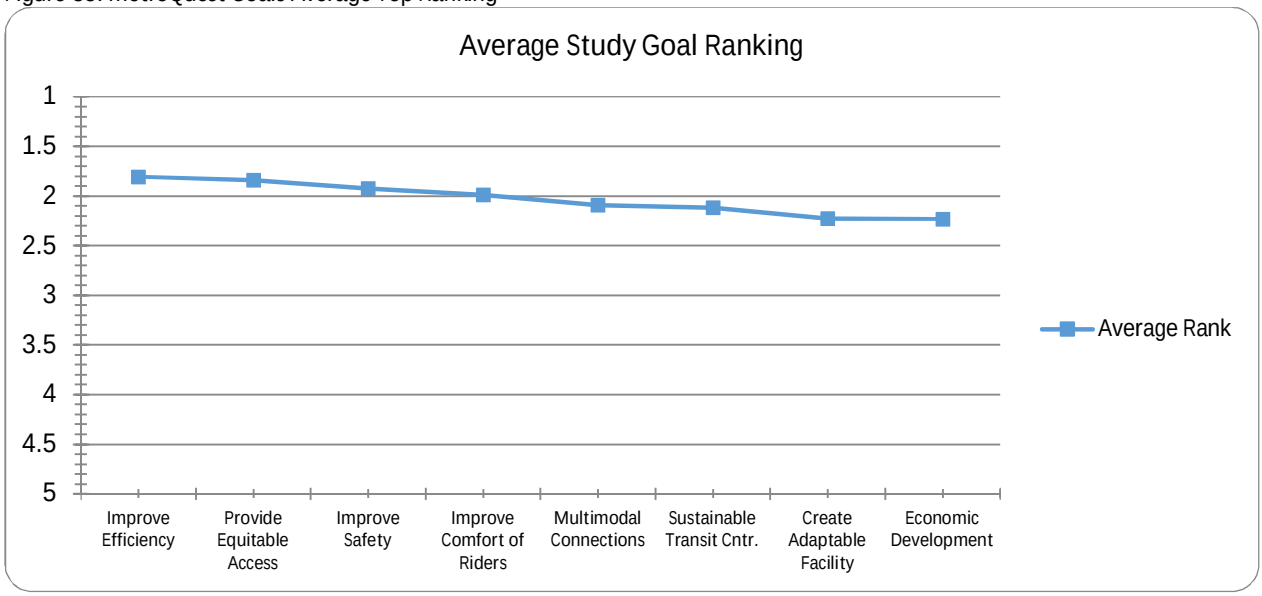


Figure 34: MetroQuest Survey Top Goal Results



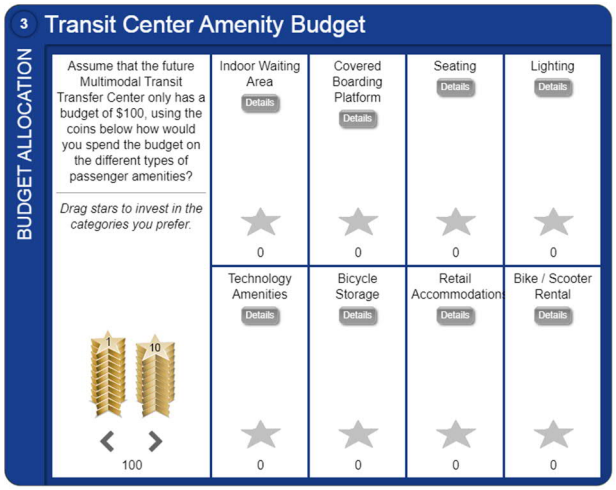
Improve Efficiency was ranked in the top three participant priorities more times than any other option. It was ranked 298 times. Provide Equitable Access and Improve Comfort of Riders tied for second place with 209 rankings each (Figure 34). When we consider the ranked order of each Study goal, Improve Safety rises into third place (bumping Improve Comfort of Riders into fourth). This indicates that Improve Safety was ranked within the top 3 priorities less frequently; however, when it was ranked, it was indicated as a top priority. In Figure 35 below, note that the highest rank is 1, so lower rankings and averages are better than high ones. These results indicate that Improve Efficiency, Provide Equitable Assess and Improve Safety when ranked in the top three, were most often listed at the highest priority.

Figure 35: MetroQuest Goals Average Top Ranking



Budget Allocation:

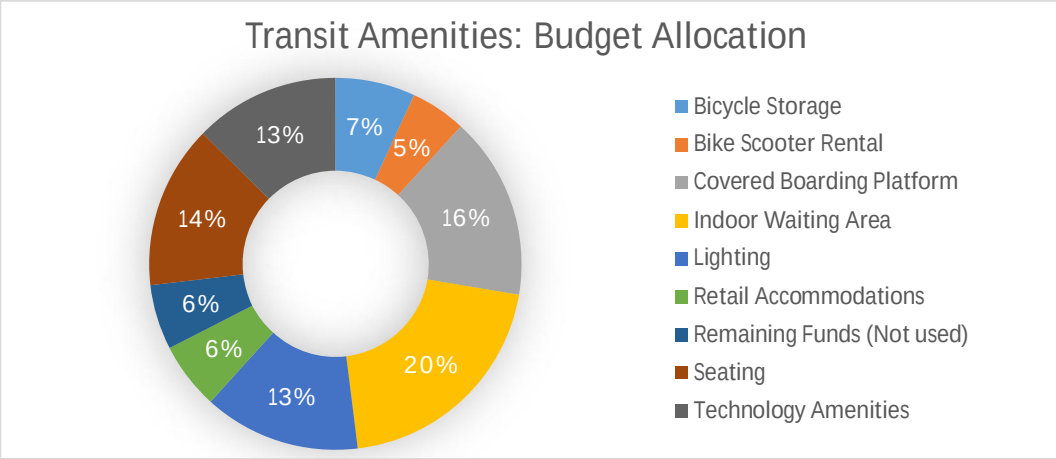
Figure 36: MetroQuest Survey - Amenity Budget Screen



The third MTTC survey screen asked participants to indicate how they would allocate funds on a new transit center's passenger amenities. Respondents were given the equivalent of $100 in virtual stars (nine $10 stars and ten $1 stars) to distribute into eight different amenity categories (Figure 36). Within each transit center amenity category, respondents could select the 'Details' button for a photograph example and short description of what each general amenity category could entail.

Indoor Waiting Area received 20% of the virtual money, Covered Boarding Platform came in second with 16%, and Seating earned 14%. These top three categories reinforce a high priority ranking (in the previous exercise) for Improved Comfort for Riders. "Technology Amenities" and "Lighting" tied for fourth with 13%. These results are displayed in Figure 37.

Figure 37: MetroQuest - Transit Amenity Budget Allocation Results

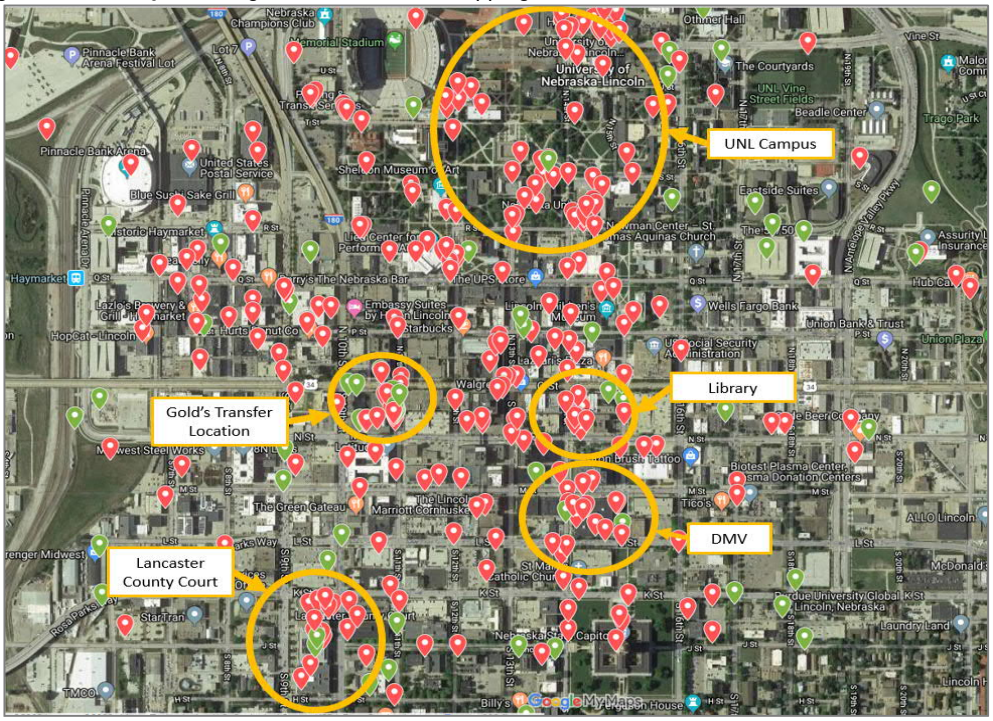


Trip Pattern Mapping:

The fourth and final survey exercise asked participants to drop pins on a map indicating where, on average, they start their day and their most common destination (work, school, etc.). Participants dropped 1,041 'pins' on the maps.

In the map in Figure 38 below, the red pins indicate where survey participants listed their general trip destination. While destinations were noted across the downtown study area, notable concentrations were shown at the southern edge and central portion of the University of Nebraska – Lincoln (UNL) campus, downtown Public Library, State of Nebraska Department of Motor Vehicles, Lancaster Court facilities, and current Gold's Building StarTran transfer location.

Figure 38: MetroQuest - Origin and Destination Mapping Results



MTTC Survey Comments

In total, the MTTC Study survey received 501 comments (the Spanish survey received five comments on the Priority Ranking Screen only). An export of all comments is available for further review; the below presents only a few of the comment highlights.

Comment Highlights on the Priority Ranking Exercise:

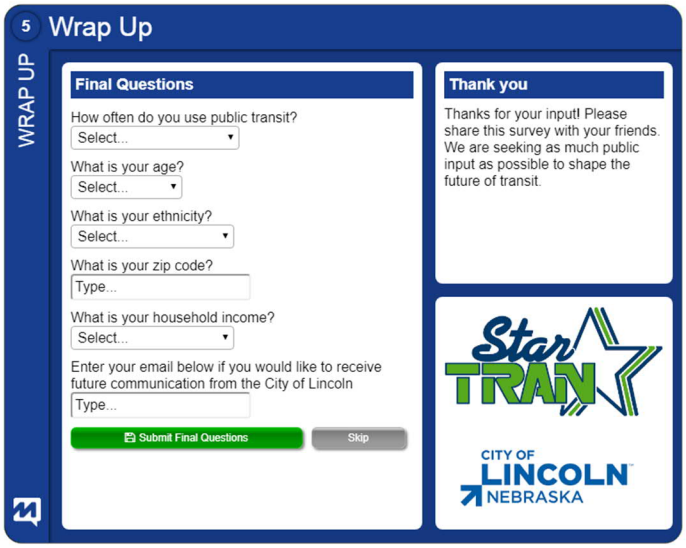
- "Improve Safety" comments:
  - Need to have safety mechanism for early commute passengers as bus stops does not have light posts
  - Why did you all take out the weather shelters at the bus stops?! People freeze outside and get rained on. What were you thinking?! (Lincoln weather and covered shelters were referenced multiple times in various categories)
  - I have felt creeped out at bus stations, bus stops, and on the bus.
- "Improve Efficiency" comments:
  - Transit center should be in center of city to increase efficiency and time for all passengers, avoid everything being downtown and at UNL
  - There should be more than one transfer center with facilities. (Multiple transfer center locations were referenced three times.)
  - Having a North/South bound only bus on 70th or 84th street would greatly improve transit times for those not wanting to go downtown first to change routes.
- "Improve Comfort of Riders" comments:
  - This is very important to me. The current waiting station has no heating or cooling. The A street bus is unbearably crowded.
  - It is very cold and there are no restrooms. Bus times could be up to an hour long.
  - How about restroom access for those waiting for a connection bus?
  - Restrooms are very important! (Restrooms were referenced four times)

  - I commute via Route#40 from Golds to Van dorn in evening. Older versions of Bus are not at all comfortable. In contrast, Routr#53 always gets newer version of StarTran Bus and always on time. Please fix that.
- "Provide Equitable Access" comments:
  - Equitable access needs to be provided to all city residents, not just focusing on downtown, low income and UNL students.
  - When the routes were redrawn a couple years ago, they pulled buses out of the neighborhoods that they serviced and made it harder to effectively connect with the buses. Some neighborhoods, including several in the west Lincoln area have been excluded from the bus's new system due to the distance you have to walk to get to a bus stop.
  - Accessible buses would be amazing!
- "Create Adaptable Facility" comments:
  - Still would love to see trolleybuses here in Lincoln someday…
  - Need sheltered bus stops and when snow/ice accumulates near bus stops, Bus Drivers can stop bus little further near Traffic Stop as Stepping on Ice/snow causes injury
  - We could use more bus shelters around Lincoln on both sides of the street there are some people who can't stand while waiting for the bus!!!!
- "Sustainable Transfer Center" comments:
  - That is an ambitious plan. Definitely agree with incorporating what can be done with a reasonable return for the money. It should not be the main focus.
  - Do not sink any more taxpayer dollars into the transit system that is already dependent on subsidies. No one uses the bus system or wants to. If you put Wi-Fi in it will only attract homeless people. A deli will not generate enough revenue to support itself. Stop funding bad ideas with taxpayer money.
- "Economic Development" comments:
  - I feel like what I pay for a bus pass is expensive compared to cost of living adjusted prices in other cities.
  - If I struggle to get around town, I would really appreciate some resources collocates at my bus station especially if I have a 20- or 30-minute wait before my next bus. Prepared food to go, small grocery items and convenience items, much like what you might find at the airport.
- "Suggest another" comments:
  - Adding Bus Shelters Around Lincoln
  - Tourism guide
  - Amtrak Depot
  - More routes and less waiting. Easier to figure out connections and timing for trip
  - Offer transportation to more than downtown; run transportation after 5 pm
  - Provide access and routes on Saturday and Sunday, especially to the Farmers Market and area Churches and Stores.
  - Better routes/ 24/7 run times
  - Provide opportunities for higher density redevelopment, including affordable housing.

Survey Demographics:

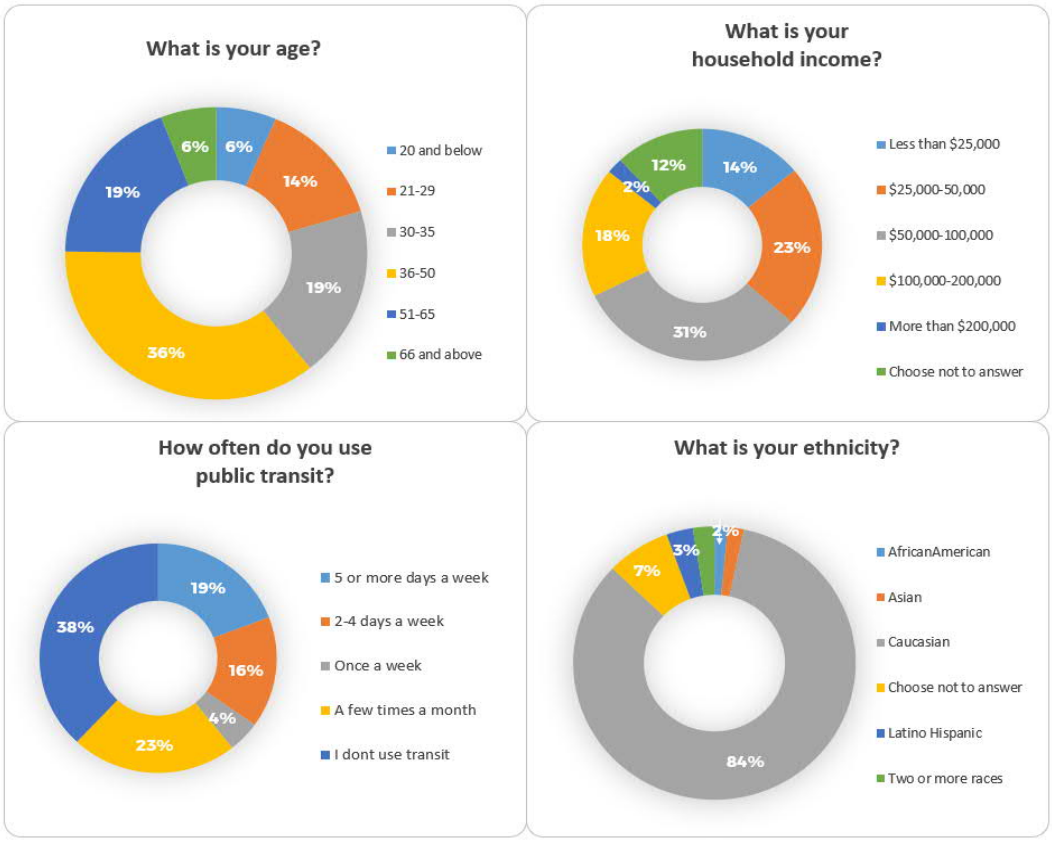
At the conclusion of the MetroQuest survey, participants were asked a series of demographic questions (Figure 39) as well as how often, if at all, they used public transportation in Lincoln. The overwhelming majority of respondents identified at Caucasian. Approximately fifty-five percent of survey takers were between the ages of 30 and 50 years of age and roughly the same percentage reported a household income between $25,000 and $100,000 per year.

Figure 39: MetroQuest - Demographic Questions Screen



There was a good mix of current transit users and those that do not currently utilize StarTran services. Sixty two percent of survey respondents use transit at least a few times a month. Almost twenty percent said they use StarTran routes five days a week. Thirty-eight percent said that they do not currently use public transit in the City of Lincoln. Results from the demographic and survey wrap up questions are displayed in Figure 40 below.

Figure 40: MetroQuest - Demographic Questions Results

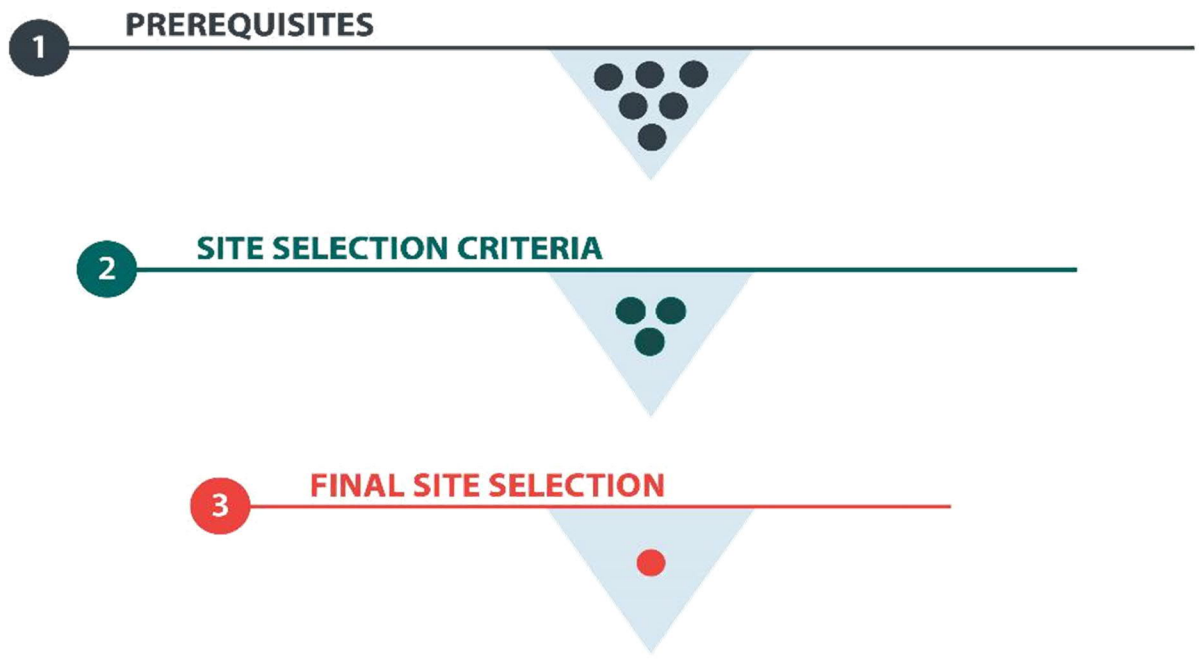


4.4 MTTC Site Requirements

By gathering the information developed in the functional needs assessment above, the general information related to overall size of the site can be understood. The process of actually selecting a site was addressed through a repetitive screening process of criteria developed and refined by the key stakeholders on the project (Figure 41). Through this process, the stakeholders were able to make informed decisions in an iterative, information sharing environment, allowing everyone involved to arrive at a preferred site which would provide the best overall solution for the aggregate. In order to facilitate open communication, both the goal-setting process, where prerequisites and selection criteria are determined and the final site selection review were conducted via in-person workshops.

The selection followed a three-step sequencing process where each site was screened for meeting pre-requisites determined by the key stakeholders. This initial stage was simply pass/fail. Second, the sites which passed stage one were then rated based on weighted selection criteria across a number of categories which essentially resulted in a scorecard for each site. The sites which separated themselves from the others in the final scorecard tally were then test-fitted with various conceptual operational layouts and discussed in a workshop setting with the key stakeholders.

Figure 41 - Site Selection Screening Diagram



4.5 Site Selection Criteria

The criteria were developed initially by the design team as a draft to illustrate common preferences or themes typically seen in peer facilities nationwide. These criteria lists were then presented to the key stakeholders in a site selection criteria workshop and this workshop resulted in a vetted list of prerequisite requirements for each site and the list of site selection criteria.

The Prerequisites were determined to be as follows:

Prerequisites	
In the downtown area	For purposes of this evaluation, the "downtown area" is defined as the project study area.
Accommodates full program	This includes both operational site components and building functions.
Approach streets can accommodate bus movements	This includes bus arrival and ability to accommodate pulse-style departure.
No environmental restrictions	Site is not in a floodplain.
Historic restrictions	Existing structures on site are not protected, registered or designated as historic.
Adjacent / near bike corridor	Must be within one or two blocks of existing or planned downtown bike corridor.
Location does not cause StarTran to incur additional operational costs	Is this 0% increase or is there an acceptable % increase?

Next, the stakeholders established what would be the key criteria that would make a site more successful or less successful. These selections would later be weighted by the stakeholders to add a layer of ranking within each criteria, thus helping to filter sites which may score high, but achieve fewer of the more important criteria vs. a site which may not score relatively as high, but does achieve the most important of the key criteria.

The key stakeholders conducted a group exercise where criteria where identified in each of three main categories: Multi-modal Connectivity, Suitability & Feasibility and Social & Economic Benefit. The list of those criteria were determined as indicated in the Worksheet that follows.

Table 15: MTTC Scoring Criteria Worksheet

Multi-modal Connectivity
Bicycle Infrastructure
Vehicular Accessibility (rideshare, kiss-n-ride)
Public Parking Availability
Pedestrian Connectivity
Public Transit Connections
Suitability & Feasibility
Legal Condition (Easements, Liens, or Deed Restrictions)
Site Preparation Issue (such as physical encumbrance, ownership, environmental)

Block Size and Geometry
Site Visibility
Maintains existing routing and operational scale
Transit Operational & Future Growth Needs
Social & Economic Benefit
Align with City of Lincoln Downtown Master Plan
Development Potential
Promote Economic Development in Downtown Area
Proximity to Compatible Uses and Amenities
Proximity to Ridership Origins / Destinations

After the workshop, WSP developed the draft matrix for the above content and e-mailed the list to each key stakeholder. Each stakeholder then independently scored each line on a 3-point scale (1-Low Priority, 2-Medium Priority, 3-High Priority), and returned those preferences. Stakeholder responses were then aggregated to determine an overall weighted preference for each of the criteria. The result is illustrated below (Figure 42).

Figure 42: MTTC Site Scoring Prioritization Example

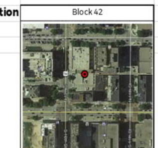
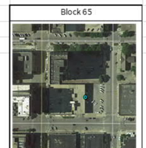
Multi-modal Connectivity																avg score	total
Bicycle Infrastructure	2	2	2	3	3	2	3	2	3	3	3					2.55	28
Vehicular Accessibility (rideshare, kiss-n-ride)	2	1	1	2	2	1	2	3	2	2	2					1.82	20
Public Parking Availability	3	1	2	1	2	1	1	2	1	1	1					1.45	16
Pedestrian Connectivity	3	3	2	3	3	3	3	3	3	3	3					2.91	32
Public Transit Connections	3	3	3	2	2	3	2	3	3	3	2					2.64	29
Suitability & Feasibility																	
Legal Condition (Easements, Liens, or Deed Restrictions)	2	3	2	2	2	1	2	3	3	2	2					2.18	24
Site Preparation Issue (such as physical encumbrance, ownership, environmental)	1	3	1	1	1	1	2	2	2	2	1					1.55	17
Block Size and Geometry	3	3	3	3	2	2	2	3	2	3	3					2.64	29
Site Visibility	3	2	3	3	2	2	3	2	2	3	3					2.55	28
Maintains existing routing and operational scale	2	3	2	3	3	3	3	3	2	3	2					2.64	29
Transit Operational & Future Growth Needs	3	2	2	2	3	3	2	3	2	3	3					2.55	28
Social & Economic Benefit																	
Align with City of Lincoln Downtown Master Plan	3	3	3	3	3	3	3	3	2	3	3					2.90	32
Development Potential	2	2	2	2	2	3	2	3	1	2	2					2.10	23
Promote Economic Development in Downtown Area	2	2	1	2	1	1	3	2	1	2	2					1.80	19
Proximity to Compatible Uses and Amenities	3	2	3	3	3	3	3	3	3	3	2					2.80	31
Proximity to Ridership Origins / Destinations	3	2	2	3	3	2	3	3	2	3	3					2.70	29

In each category, the bold text represents the two criteria which scored the highest weighted tally based on stakeholder feedback.

4.6 MTTC Site Alternatives

Parallel to the establishment of Site Selection Criteria, stakeholders also participated in the site selection workshop with the purpose of identifying transit center sites within the study area boundary, which either were owned by the City of Lincoln, were considered available in terms of a favorable negotiation of sale with the current land owner, could physically contain the programmatic needs of the MMTC, and were located in a manner which would not be detrimental to bus route configurations or deadheads. Both deadhead analyses and route configurations were performed on sites receiving the more favorable scores as part of the overall evaluation process.

Figure 43: Sample Prerequisite Site Scoring Matrix

StarTran Multi-Modal Transit Center Study	**Bounding Streets**	O/P10/11		M/N 9/10		M/N 13/14		P/Q 16/17	
	Summary Description	Northwest quadrant of block. Former Single Barrel site. MTTC site assumes Single Barrel property.		Building on southeast quadrant of block with remainder of block surface parking. Approximately half of block under City ownership.		MTTC site would assume southern half of block. Currently four story commercial building and structured parking. Under City ownership.		MTTC site assumes norther half of block that is currently occupied by one-story retail center. Property is currently for sale, one owner. Close proximity to UNL Campus.	
	Block Designation	Block 42		Block 69		Block 65		Block 51	
All Sites									
Prerequisites	**Metric**	FAIL		PASS		PASS		FAIL	
In the downtown area	Site within downtown Study Area	Yes		Yes		Yes		Yes	
Accommodates full program	Site can accommodate all routes with space for expansion	No		Yes		yes	stacked	Yes	
Approach streets can accommodate bus movements	Roadway system to / around site allows for min bus movement	Yes		Yes		Yes		Yes	
No environmental restrictions	Site is not in floodplain	Yes		Yes		Yes		Yes	
Historic restrictions	Site does not impact historic property	Yes		Yes		Yes		Yes	
Adjacent / near bike corridor	Site located adjacent to existing or planned bike corridor	Yes		Yes		Yes		Yes	
Location does not cause StarTran to incur additional operational costs	Site does not add new operational costs	Yes		Yes		Yes		No	

Ultimately, the potential sites were pared down to 17 sites considered viable to proceed into the site selection process. Of those 17 sites, 10 failed the prerequisite criteria leaving 7 sites for the Selection Criteria scoring.

Figure 44: Site Scoring - Selection Criteria Matrix Example

				Score 1=YES 0=NO	weighted score	total points	Score 1=YES 0=NO	weighted score	total points	Score 1=YES 0=NO	weighted score	total points	Score 1=YES 0=NO	weighted score	total points
Multi-modal Connectivity	Metric				11.36	125		11.36	125		9.91	109		9.91	109
Bicycle Infrastructure	Site located adjacent to existing or planned bike corridor	2.55	28	1	2.55	28	1	2.55	28	1	2.55	28	1	2.55	28
Vehicular Accessibility (rideshare, kiss-n-ride)	Ability for passenger vehicles to access site area for pick-up/dropoff	1.82	20	1	1.82	20	1	1.82	20	1	1.82	20	1	1.82	20
Public Parking Availability	On-site, or immediately adjacent public parking	1.45	16	1	1.45	16	1	1.45	16	0	0.00	0	0	0.00	0
Pedestrian Connectivity	Site connects to existing sidewalk network	2.91	32	1	2.91	32	1	2.91	32	1	2.91	32	1	2.91	32
Public Transit Connections	Site located with convenient access to other modes of transportation	2.64	29	1	2.64	29	1	2.64	29	1	2.64	29	1	2.64	29
Suitability & Feasibility	Metric				8.91	98		6.27	69		6.27	69		4.73	52
Legal Condition (Easements, Liens, or Deed Restrictions)	No Known easements, liens or deeds which would restrict ability to develop and operate on the site	2.18	24	1	2.18	24	1	2.18	24	1	2.18	24	1	2.18	24
Site Preparation Issue (such as physical encumbrance, ownership, environmental)	No known obstructions to allow for development such as owner unwilling to sell, or environmental issue	1.55	17	1	1.55	17	1	1.55	17	1	1.55	17	0	0.00	0
Block Size and Geometry	Overall available site dimensions accommodate bus movement and operations	2.64	29	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0
Site Visibility	Site located in a visible location for passengers to find and use safely	2.55	28	1	2.55	28	1	2.55	28	1	2.55	28	1	2.55	28
Maintains existing routing and operational scale	Site location can support approach / departure movements for bus routes	2.64	29	1	2.64	29	0	0.00	0	0	0.00	0	0	0.00	0
Transit Operational & Future Growth Needs	Site can accommodate current and future operational growth needs	2.55	28	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0
Social & Economic Benefit	Metric				2.74	29.8		3.84	41.8		4.40	48		1.66	18.2
Align with City of Lincoln Downtown Master Plan	Site development and operations support and contribute to goals of the master plan	2.90	32	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0
Development Potential	Site allows for TOD opportunity in tandum with transit functions	2.10	23	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0
Promote Economic Development in Downtown Area	Development opportunities improve for adjacent properties if site becomes a transit center	1.80	19	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0
Proximity to Compatible Uses and Amenities	Total Population within 1/4 mile	2.80	31	0.4	1.12	12.4	0.6	1.68	18.6	0.8	2.24	24.8	0.4	1.12	12.4
Proximity to Ridership Origins / Destinations	Total Employment within 1/4 mile	2.70	29	0.6	1.62	17.4	0.8	2.16	23.2	0.8	2.16	23.2	0.2	0.54	5.8
				Rank			Rank			Rank			Rank		
SITE SELECTION - TOTAL SCORE				2	23.01	252.80	3	21.48	235.80	5	20.58	226.00	7	16.30	179.20
				Block 69			Block 65			Block 97			Block 20		
Proximity to Compatible Uses and Amenities	Total Population within 1/4 mile			818			1,013			1,566			950		
Proximity to Ridership Origins / Destinations	Total Employment within 1/4 mile			8,186			12,854			11,327			4,373		

Figure 46: MTTC Site Scoring Results

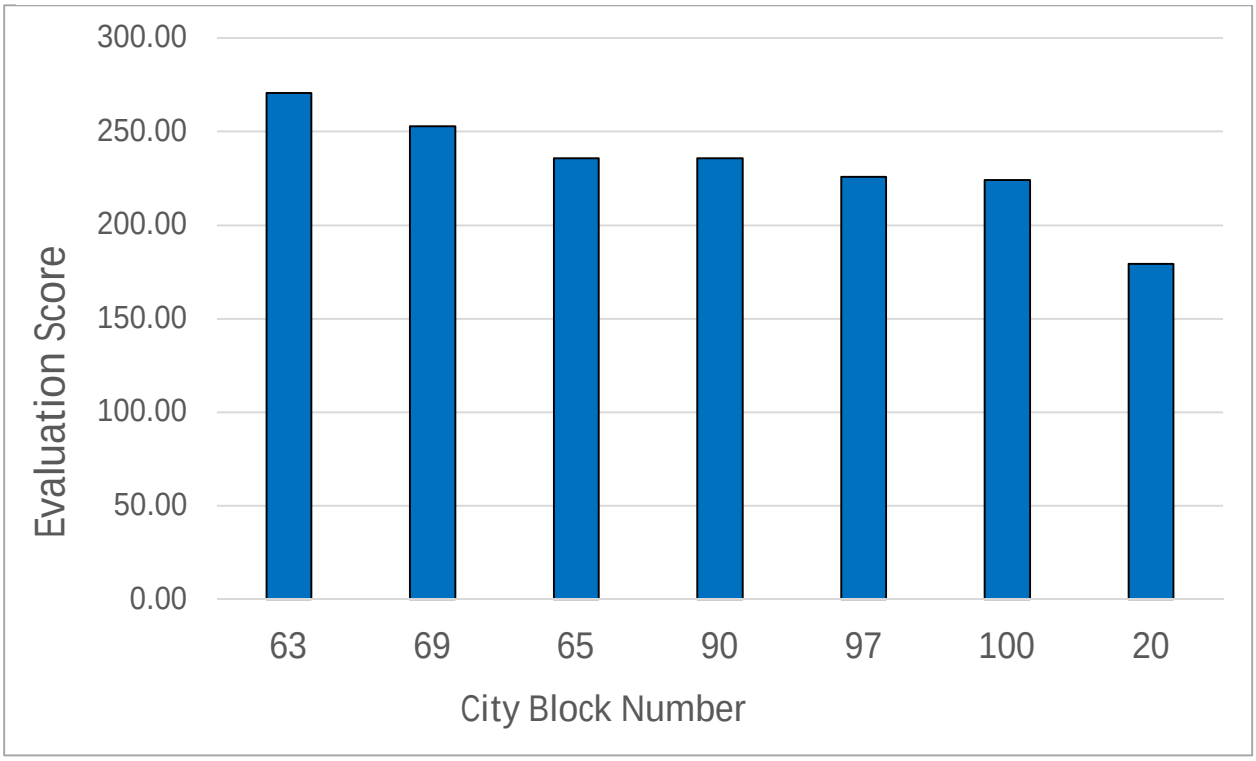
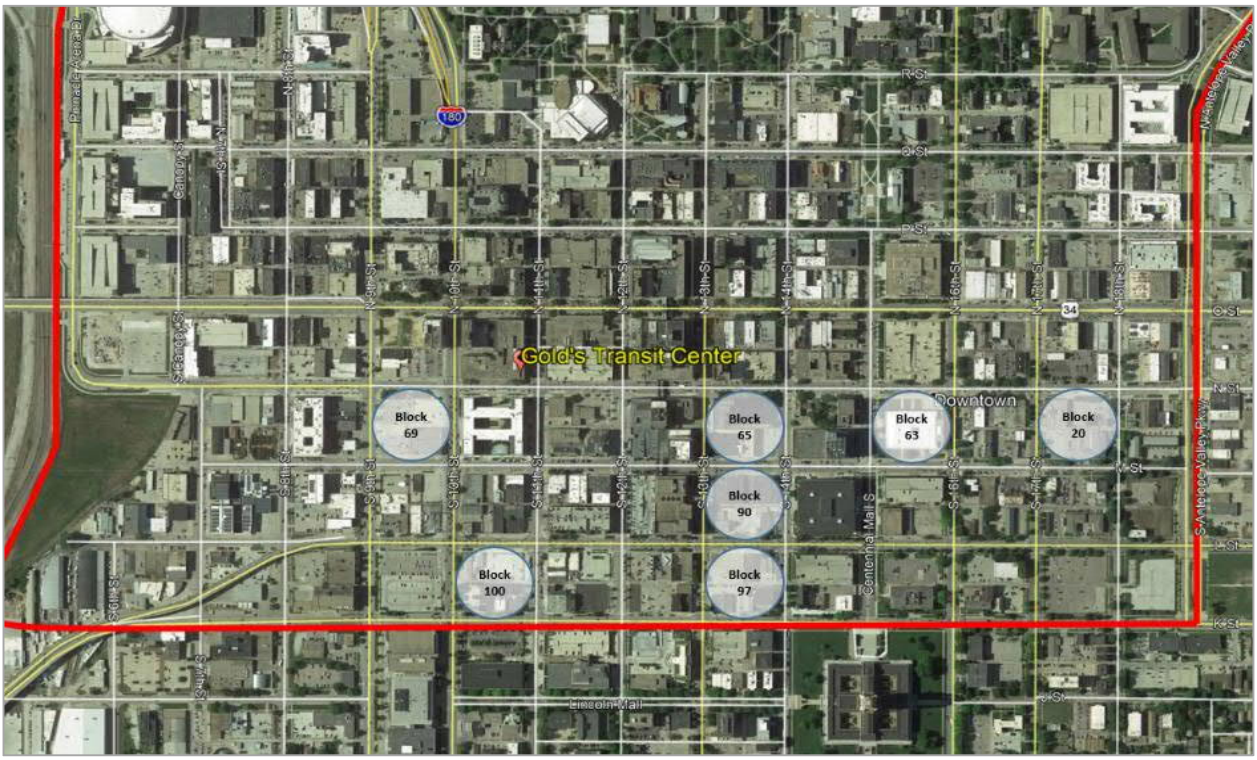


Figure 45: Top MTTC Sites Scored in Site Location Scoring



4.7 Site Selection Analysis and Preferred Site

The 7 sites in the Selection Criteria, resulted in two sites which appeared most favorable to site layout and test-fitting; Block 63 and Block 69.

Additional criteria were also reviewed in more detail as the preferred sites became more and more clear. Due to the many one-way streets currently in downtown Lincoln, this restriction was considered an additional element which may constrain a site to the point of failure. Therefore, a traffic study was performed to review AM peak and PM peak for vehicular traffic on the intersections surrounding the existing site and the two preferred sites. Fruin level of service standard was applied to each intersection with the corresponding LOS letter designator.

Figure 47: Current AM Peak Traffic Level of Service Around MTTC Site Alternatives

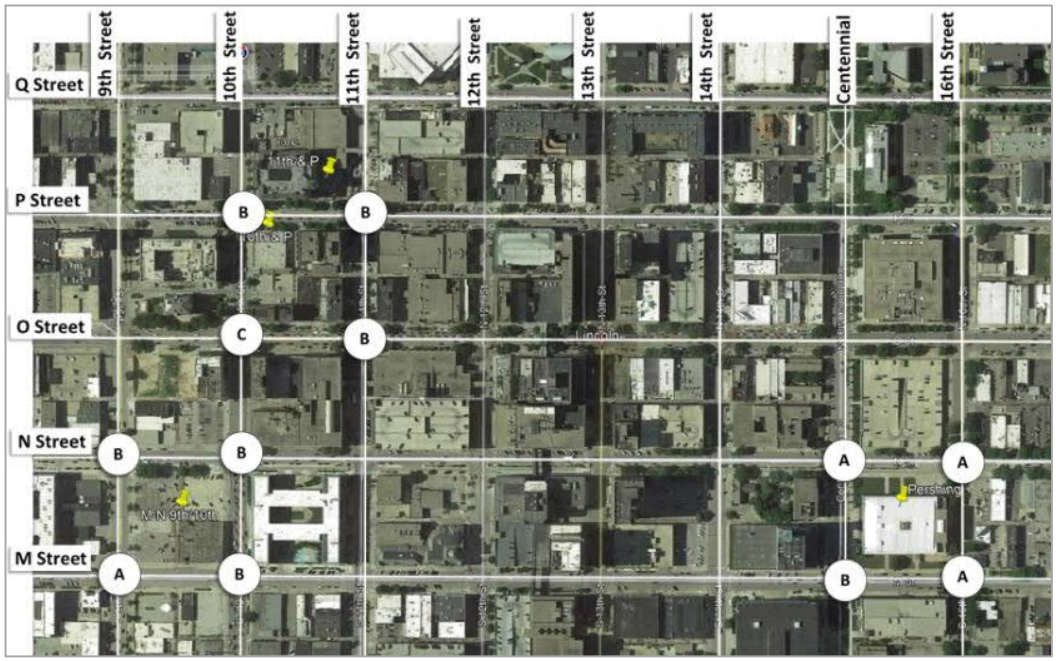
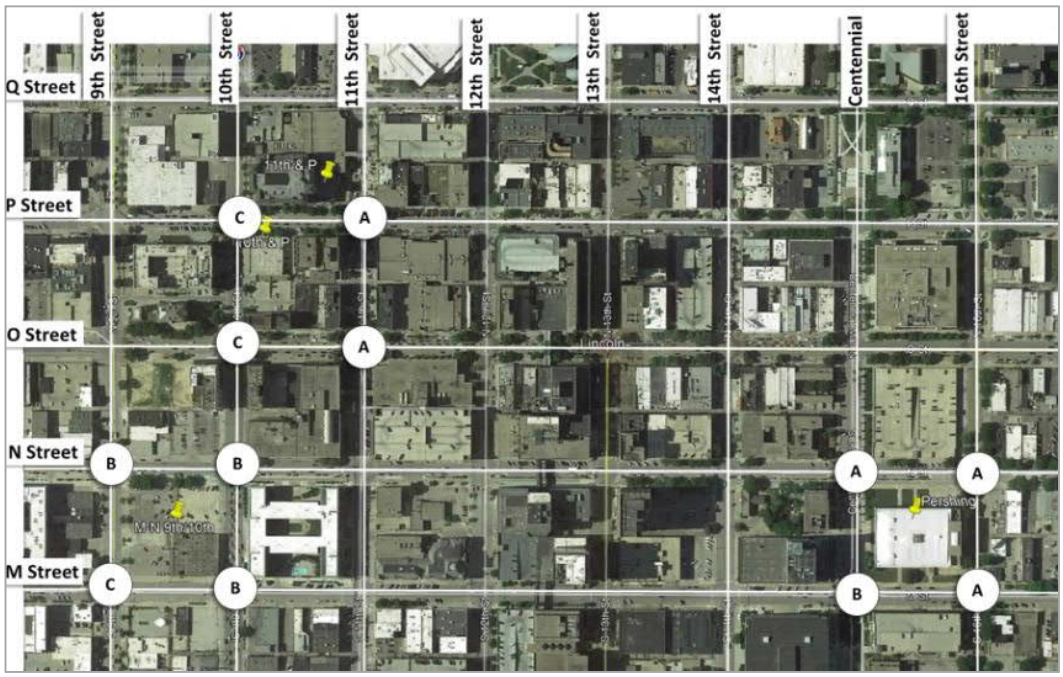


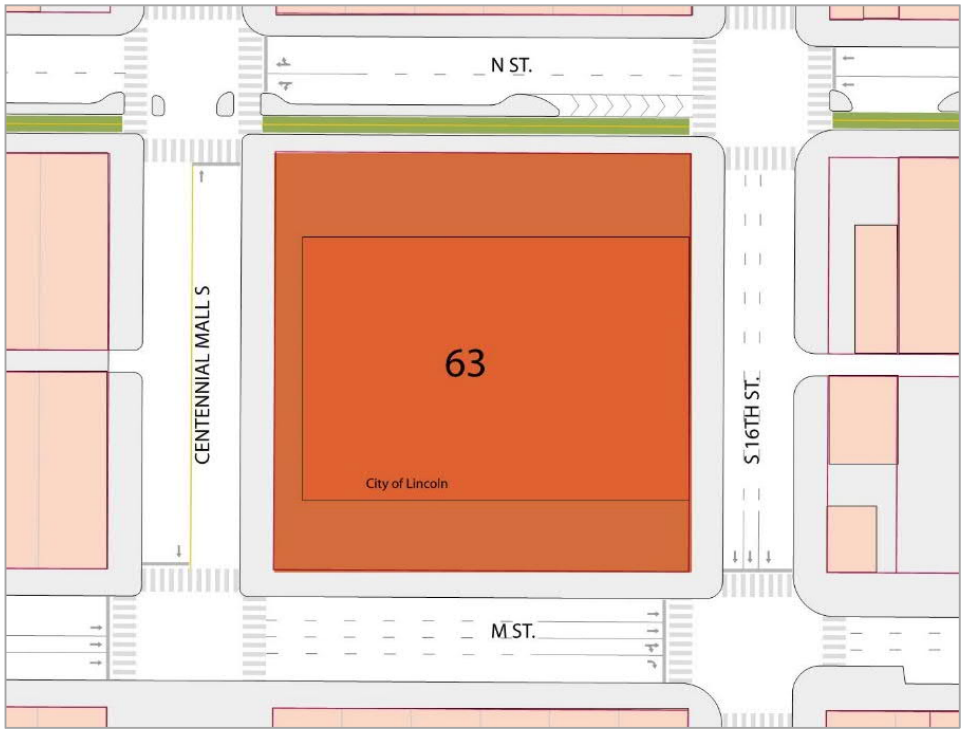
Figure 48: PM Peak Level of Service Around MTTC Site Alternatives



Block 63 – MTTC Conceptual Layouts

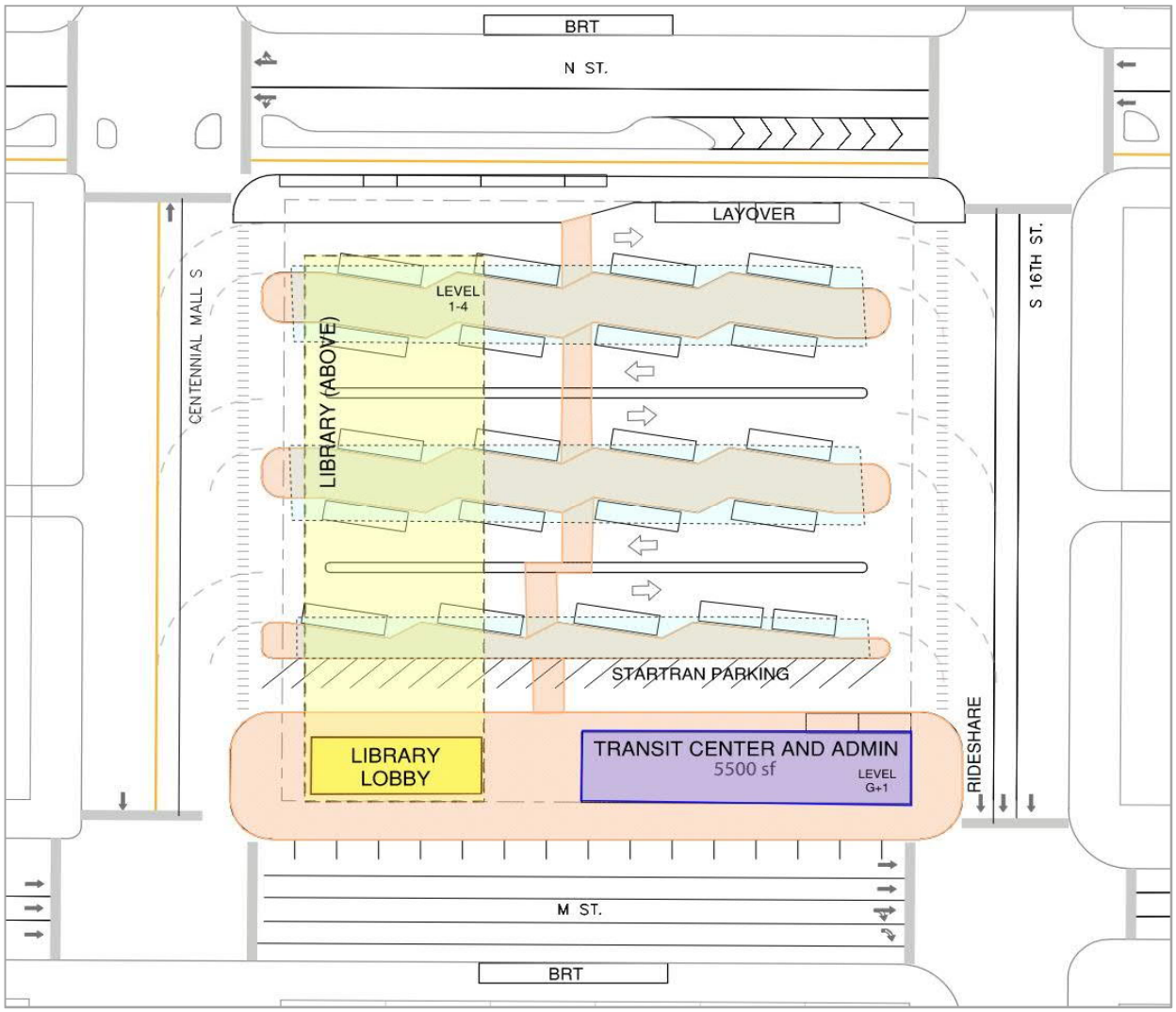
The first of the two preferred sites is known as the "Former Pershing" site and it defined as "Block 63". This site is owned by the City of Lincoln and encompasses a full block site. Four configurations and various options were developed and reviewed with the key stakeholders in a design / planning workshop.

Figure 49: Block 63 Site



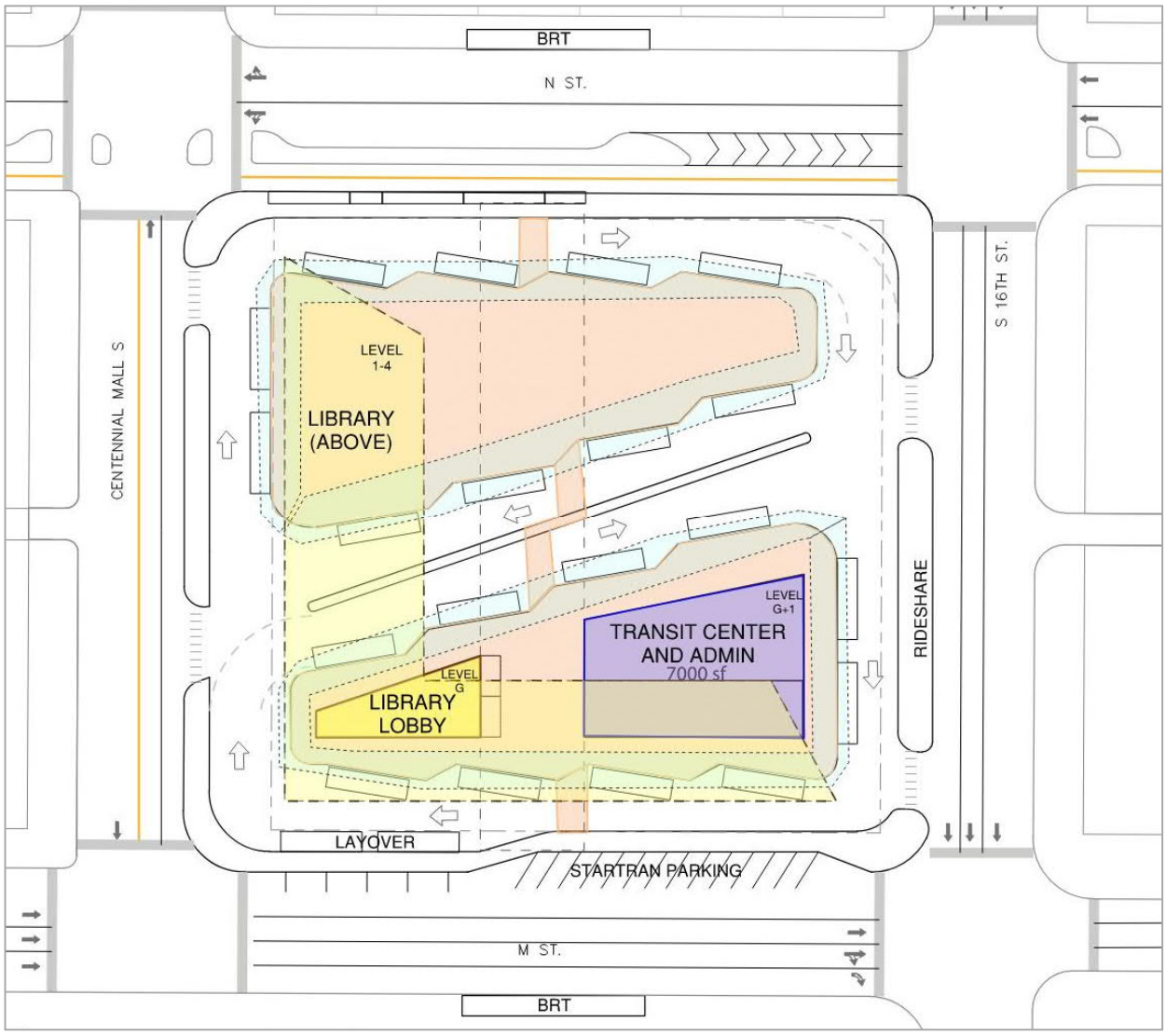
The Block 63 MTTC site scored well due to its full block size that would allow for nearly all of the transit center elements that were identified in the functional needs assessment, including significant opportunity for some form of joint use, or Transit Oriented Development. The Downtown Master Plan and other stakeholders in the past had proposed a concept for Block 63 to be a potential location for a new Downtown Library. Working from this proposal, the study team developed multiple transit center conceptual layouts to illustrate how a library, or other type of joint development could be integrated on the full Block 69 site.

Figure 50: Block 63 MTTC Layout Alternative A



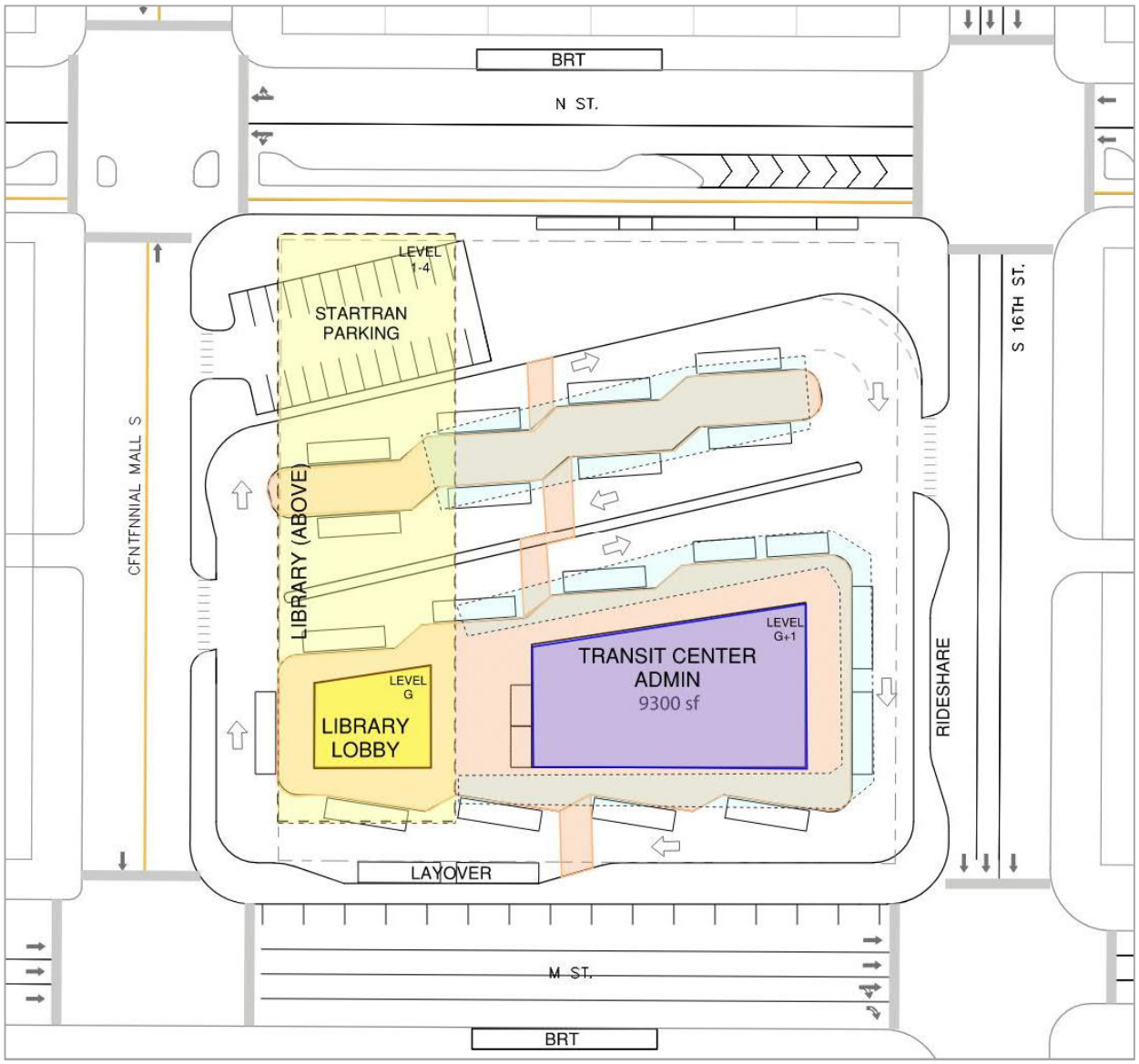
Alternative A (Figure 50) shows a concept with transit operations on the ground level with StarTran administrative functions and indoor waiting located along M Street and 16th Street. Transit vehicles would access the site from Centennial Mall and 16th Street. This configuration would have three covered boarding platform islands that could accommodate up to twenty-one buses. Future BRT stations could be constructed along M and N Street in the future if needed. A new three- to four-story library or other joint development would be constructed above the MTTC site, fronting Centennial Mall. The lobby entrance to this building would be located along M Street with stairs/escalators and elevators to access the floors above.

Figure 51: Block 63 MTTC Layout Alternative B



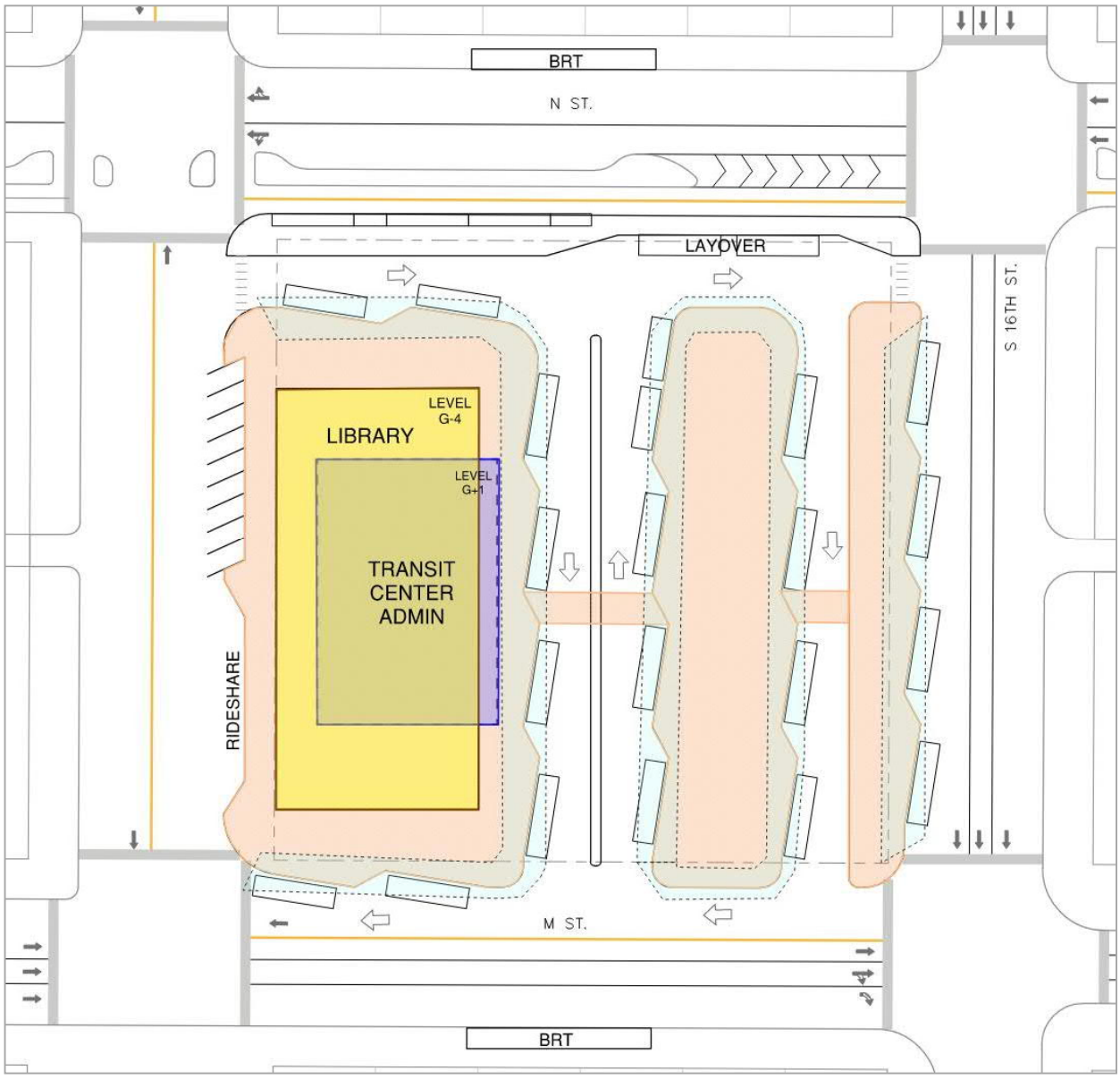
Alternative B (Figure 51) also envisioned a joint use of the Block 63 site with the Library or other use constructed above the MTTC that would front Centennial Mall and M Street with a three- to four-story structure. Transit operations, indoor waiting, and StarTran administration would all be located on the ground level. Boarding areas would be divided on to two islands that would have covered boarding platforms for up to twenty buses. Transit vehicles would access the site from either Centennial Mall or 16th Street. StarTran administrative parking would be located along M Street.

Figure 52: Block 63 MTTC Layout Alternative C



Alternative C (Figure 52) builds off the concept in Alternative B with the diagonal layout and joint development overbuild. In this alternative the joint development building would front Centennial Mall only and allow for a larger transit indoor waiting area and StarTran administrative office space. This alternative would accommodate up to twenty buses with covered boarding platforms. StarTran parking would be located on the northwest corner of the site.

Figure 53: Block 63 MTTC Layout Alternative D



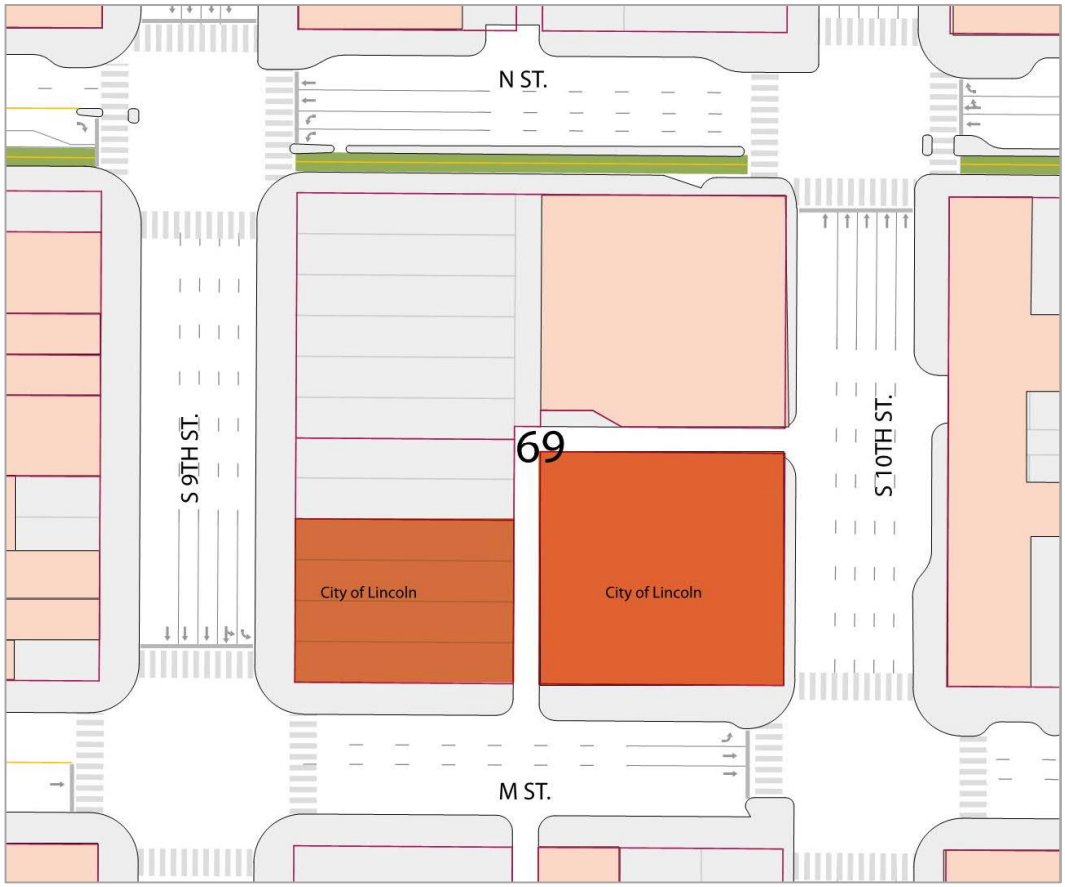
Block 63, Alternative D (Figure 53) rotates the MTTC layout to a north/south configuration with all bus access from M Street, Centennial, and 16th Streets. This concept would merge the overbuilt joint development structure on top of the transit center indoor waiting area and StarTran offices on the ground level. This four-story structure would front Centennial Mall and have transit operations facing 16th Street. The alternative would allow up to twenty-one buses but would not provide for StarTran staff parking. One block of M Street would also need to be converted to two-way traffic to allow buses to access the site.

In the design / planning workshop it was discovered that there are other uses that may be preferred for the Block 63 site and it may not be a viable candidate site to proceed. While the site has many benefits for a transit center application, it may not be the highest and best use for the block.

Block 69 – MTTC Conceptual Layouts

The next highest scoring site was Block 69 located one block southwest of the current Gold's transfer location. Even though this is only ½ block in area, it still scored second highest overall due to its location in relation to population and employment density and limited impact on existing transit route alignments in Downtown. In addition, this is the same site used in the prior BUILD grant application, but only utilizing the southern half of Block 69, which is largely owned by the City of Lincoln.

Figure 54: Block 69 Site

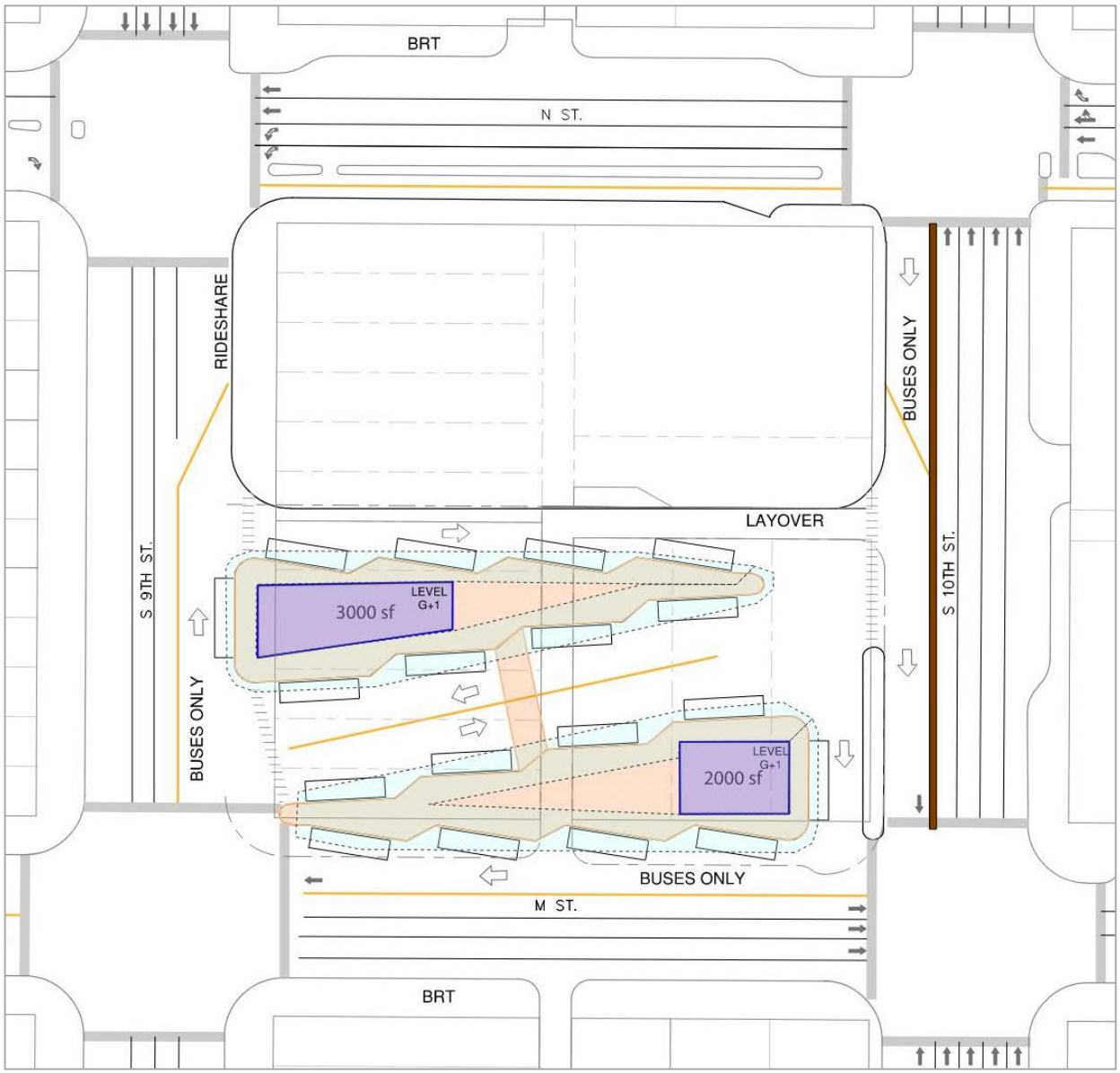


Because this site is approximately one acre many of the elements noted in the functional needs assessment had to be reassessed, such as the minimum number of bus bays. The conceptual layouts that follow illustrate the impact of the smaller one-half block site size attempting to accommodate the maximum number of transit vehicles. To achieve this the site would need to expand beyond the current property boundaries into 9th, 10th and M Streets. This was not a viable solution, so the minimum bus accommodation was lowered to fourteen vehicles so the MTTC operations could fit within the property.

Also due to the constrained site size, integration of joint use or transit-oriented development were not able to be accommodated. The conceptual layouts only accommodate transit operations and passenger boarding.

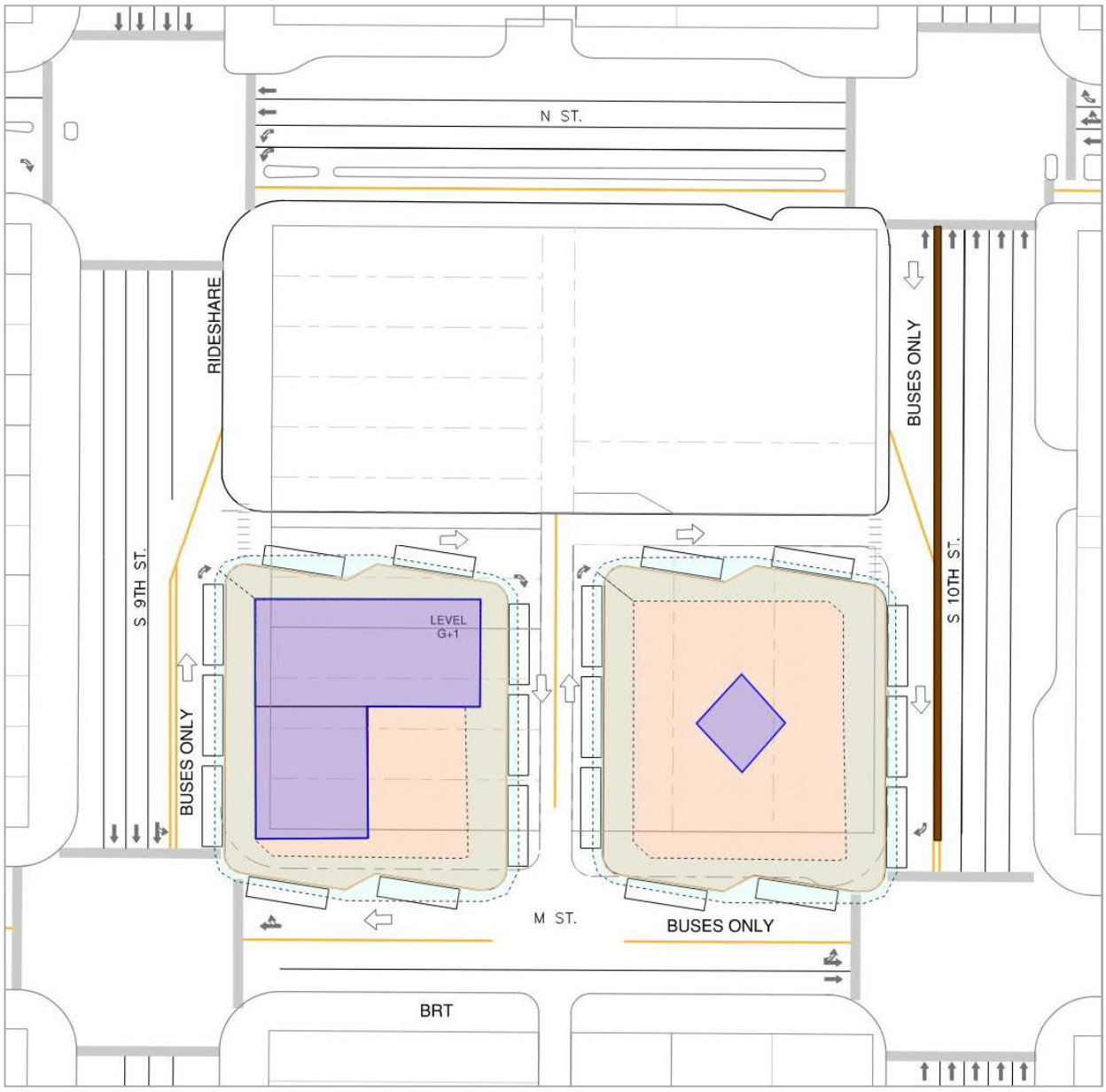
Three alternative layouts were presented to the Advisory Committee in the design workshop for Block 69 for discussion.

Figure 55: Block 69 MTTC Layout Alternative A



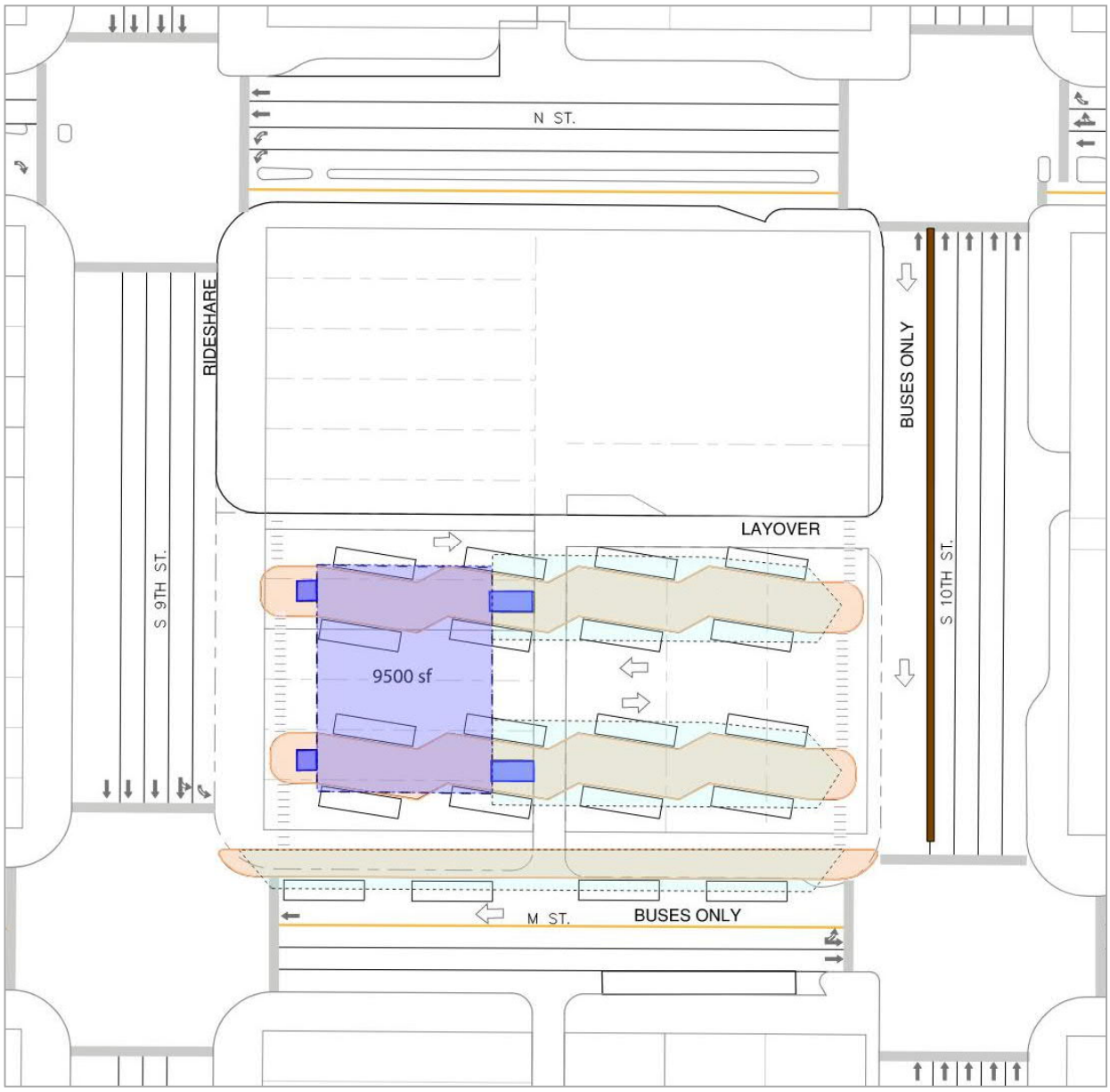
Alternative A (Figure 55) shows a double wedge configuration with an indoor waiting area on each of the islands. StarTran administrative offices or driver relief areas would be built above the waiting areas. Each of the two boarding islands would be fully covered and provide up to eighteen buses. Bus counter-flow lanes would need to be built along M, 9th and 10th Streets to allow bus operations against the existing one-way traffic.

Figure 56: Block 69 MTTC Layout Alternative B



Alternative B (Figure 56) envisioned two rectangular islands that could accommodate twenty buses. The western island would host the indoor passenger waiting area and StarTran administrative office in a two-story structure. The eastern boarding island would be covered around the perimeter with an open courtyard in the center. Bus counter-flow lanes would need to be built along M, 9th and 10th Streets to allow bus operations against the existing one-way traffic.

Figure 57: Block 69 MTTC Layout Alternative C



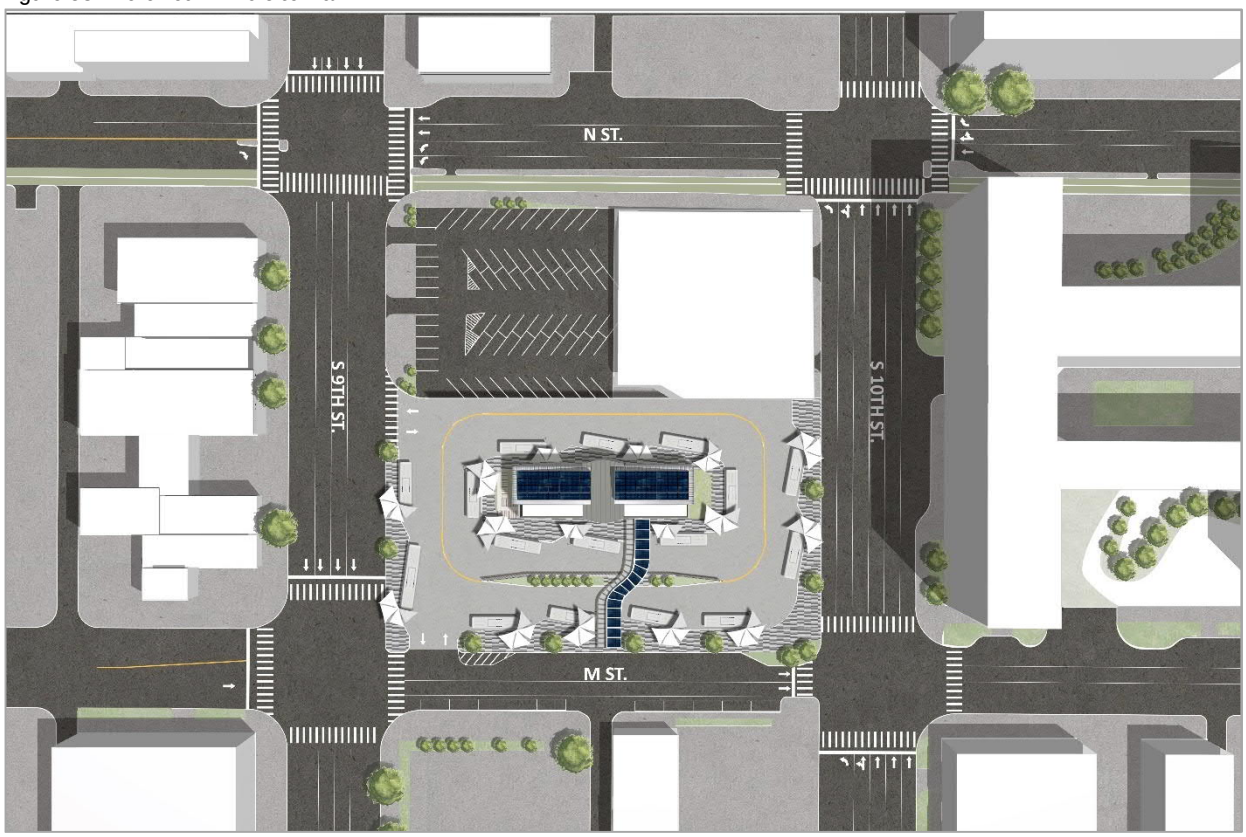
Alternative C (Figure 57) would orient the MTTC in an east/west direction with primary bus access from 9th and 10th Street. Bus counter-flow lanes would again need to be built along M, 9th and 10th Streets to allow bus operations against the existing one-way traffic. The M Street side of the site would also be used for boarding areas. Overall this alternative would accommodate twenty buses. The StarTran administrative offices would be built over the site with indoor passenger waiting area on each of the two boarding islands.

At the conclusion of the site selection process and workshops, it was a recommendation to move forward with a refined conceptual layout and design for Block 69 on the southern half of the site. The stakeholders agreed that this site offers the best opportunity for growth, service, and operations now and into the future.

4.8 MTTC Preferred Concept

The preferred MTTC site and layout concept was refined based on consultation with key stakeholders from the City of Lincoln staff including the Planning and Urban Development Department, Lincoln Transportation and Utilities (LTU) Department and others. The final MTTC preferred conceptual design was also refined based on comments received through public feedback gathered through the second MetroQuest survey. The MTTC conceptual site plan is displayed in Figure 58.

Figure 58: Preferred MTTC Site Plan



The MTTC preferred conceptual layout is designed to meet the goals defined at the outset of the MTTC Planning and Feasibility study. It will provide a centralized, off-street facility for all StarTran routes to meet and transfer passengers more efficiently. This preferred MTTC concept will construct a two-story building located on a central boarding island near the middle of the site. The ground floor of this structure will provide a climate-controlled passenger waiting area with restrooms, free public Wi-Fi, as well as a customer service area that would be staffed by StarTran to provide information and sell bus passes. The second story of this main structure would relocate StarTran's administrative offices from their current home located at 710 J Street.

In total the MTTC will provide sixteen bus bays and corresponding boarding locations. Each boarding location will provide an awning or other form of shelter from the elements as well as lighting for early morning and evening operations to improve visibility and safety. Real-time next bus arrival information will also be provided. This number of bus bays will accommodate all of StarTran's routes currently in operation and allow for modest route expansion in the future. The MTTC will operate with two general

boarding areas; one around a central island and the other around three sides of the site's perimeter. Access to and from the main center platforms from the perimeter would occur on a north/south-oriented, raised and covered pedestrian walkway. This covered walkway would also provide a protected median refuge island. The raised walkway would require buses to operate at very slow speeds within the MTTC drive areas to make this bus / pedestrian interface area safer.

The primary boarding island would host eight bus bays. These bus bays and boarding locations will be assigned to the most frequently arriving and departing bus routes. Buses accessing the center island bus bays would move though the driveways in a clockwise direction and enter and/or exit the MTTC from driveways on 9th Street or M Street depending on each route's specific alignment.

Routes with lower frequency that arrive and depart the new MTTC hourly, or less frequently would be assigned to one of the exterior boarding areas around the perimeter of the transit center along 9th Street, M Street, or 10th Street. The bus bay and loading platform located along 9th Street, closest to M Street will be reserved for an anticipated intercity commuter bus that will operate between Lincoln and Omaha.

Conceptual visualizations of the MTTC have been developed to help envision what the new facility could potentially look like and assist in describing the preferred concept. These conceptual visualizations are presented in the following figures.

Figure 59: MTTC Concept - View 1 (Looking from M Street and 10th Street to the Northwest)

Environmental sustainability was an important goal and consideration for the MTTC project. Figure 59 depicts the MTTC with solar panels on the roof of the main transit center and administration building as well as the covered walkway connecting the center boarding island to M Street. The project will also examine other sustainability features in the next level of detailed planning and engineering design such as the incorporation of native landscaping that requires little irrigation, collection or slowing of rainwater runoff, and incorporation of energy efficient LED lighting throughout the interior and exterior of the MTTC facility.

Figure 60: MTTC Concept - View 2 (Looking from M Street and 9th Street to the Northeast)

Figure 61: MTTC Concept - View 3 (Looking East from 9th Street)

Connections from transit to other modes of transportation was a central goal of the MTTC project. As envisioned in Figure 61, the MTTC will incorporate a bicycle-share station as well as designate parking spaces for electric scooters. The MTTC will provide good connectivity to the N Street Cycle Track that is located one half block to the north of the new transit center. Pedestrian crosswalks both inside the MTTC

area and at the intersections of M Street and 9th and 10th will be enhanced to assist with the safe crossing of pedestrians coming to and from the MTTC.

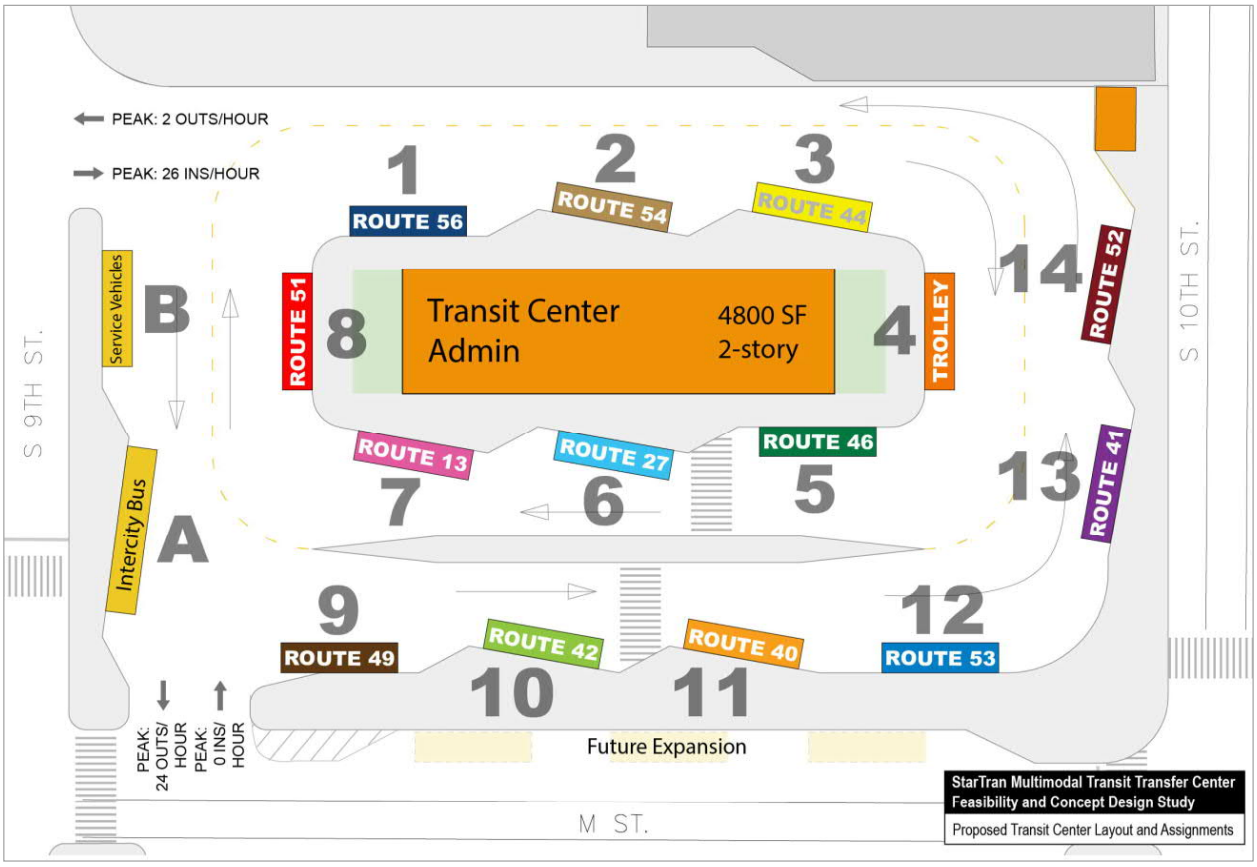
The Downtown Master Plan included catalyst projects to develop more green space in the downtown area. One of these catalytic projects was the creation of a Greenway along the M Street Corridor. Coordination and inclusion of the M Street Greenway plans and recommendations should be incorporated into the MTTC final plans and designs that will be developed in future project phases.

Figure 62 below illustrates the conceptual assignment of bus routes to bus bays and loading platforms at the future MTTC. Bus bays are arranged using a 'saw tooth' design that allows buses to safely and easily pull into and out of the bays without the need to back up. Bays around the center island are numbered one through eight. These routes currently have thirty minute or better schedule frequencies. Bays around the perimeter are numbered nine through fourteen along with an A and B location.

Currently the Nebraska Department of Transportation is developing plans for a new intercity commuter bus route that would connect Omaha and Lincoln, known as the 'Eastbound Express'. The MTTC will reserve the A boarding area of the exterior bus bays and loading platform to host this service and provide intercity transportation connectivity. The B location would be used for StarTran service or security vehicle parking but could be transitioned into an active boarding location for another transit route.

The MTTC will look for curbside space along 9th Street, 10th Street, or M Street to sign for a space for pick up / drop off for taxis, Uber, Lyft or other on-demand transportation services.

Figure 62: MTTC Bus Route Bay Assignments



M Street is planned to be converted from a one-way street to a two-way street in the coming years. When this occurs the M Street curbside area would initially be used for on-street parking. If the MTTC reached bus route capacity, this on-street space along M Street could be converted to additional boarding areas for up to three more routes.

Conceptual route adjustment for StarTran's current routes that will serve the MTTC were designed to understand how buses arrive at the transit center, enter, move through, and exit the MTTC. In the preferred site plan the majority of buses would enter from 9th Street traveling southbound and exit on to M Street traveling eastbound.

Proposed routing for all routes serving the MTTC are presented in the following figures.

Figure 63: Bay 1 - Route 56 Alignment

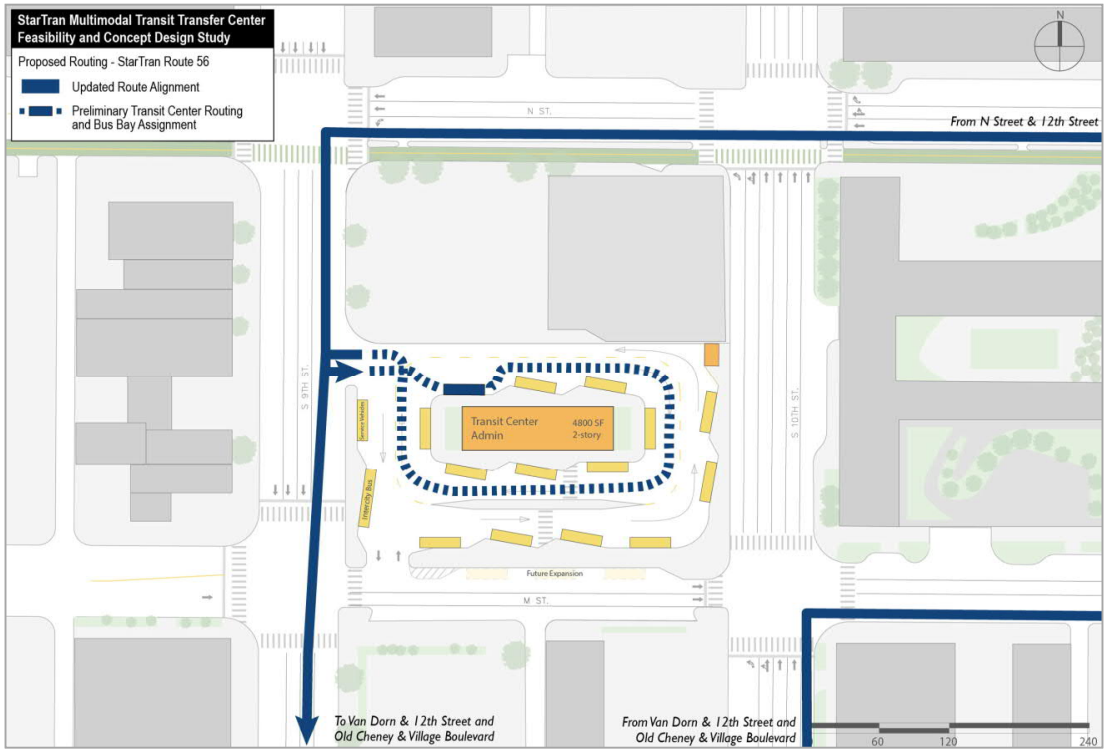


Figure 64: Bay 2 - Route 54 Alignment

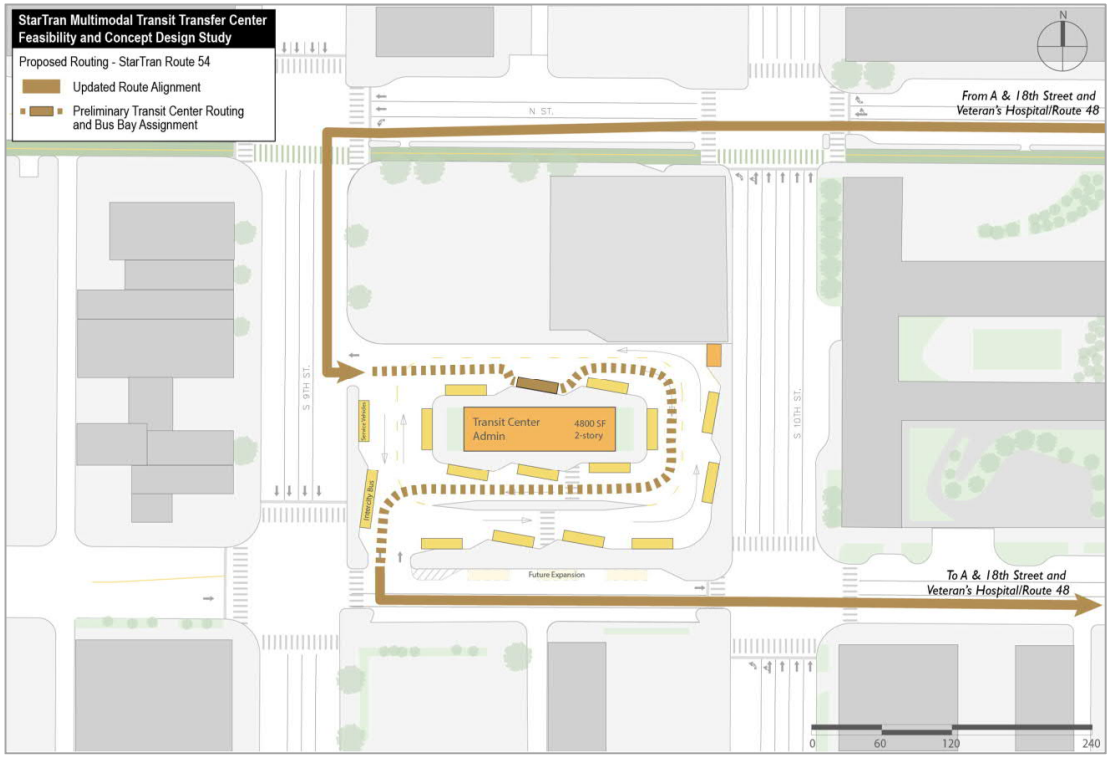


Figure 65: Bay 3 - Route 44 Alignment

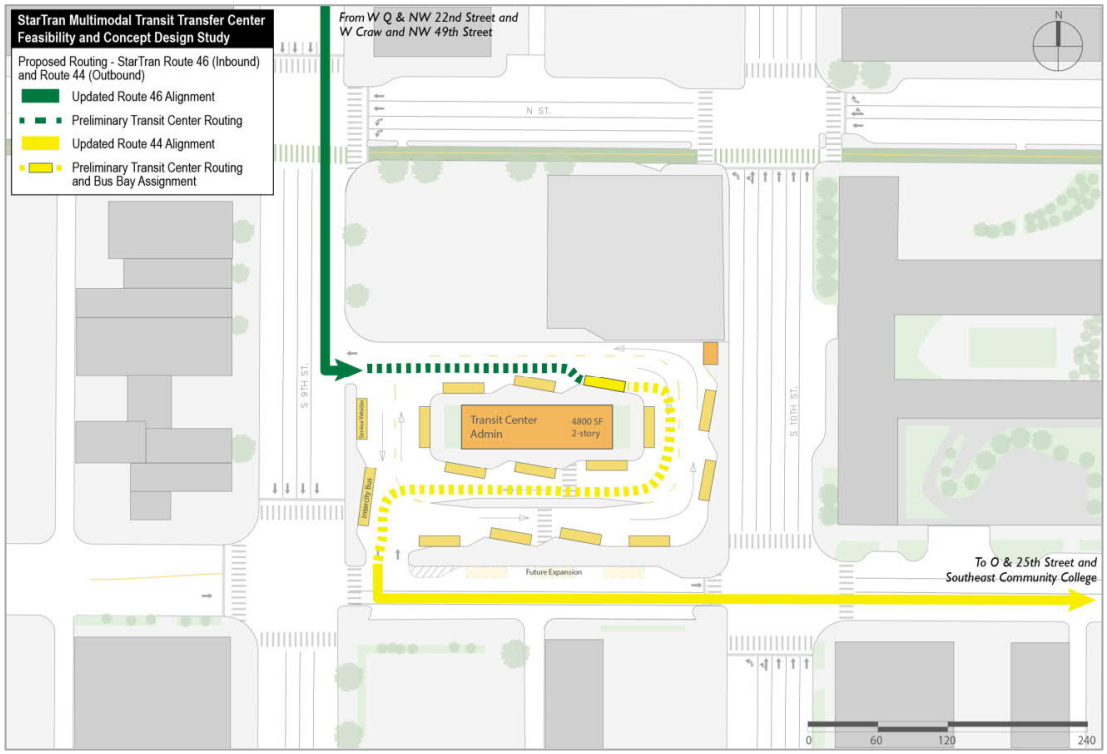


Figure 66: Bay 4 - Downtown Trolley Alignment

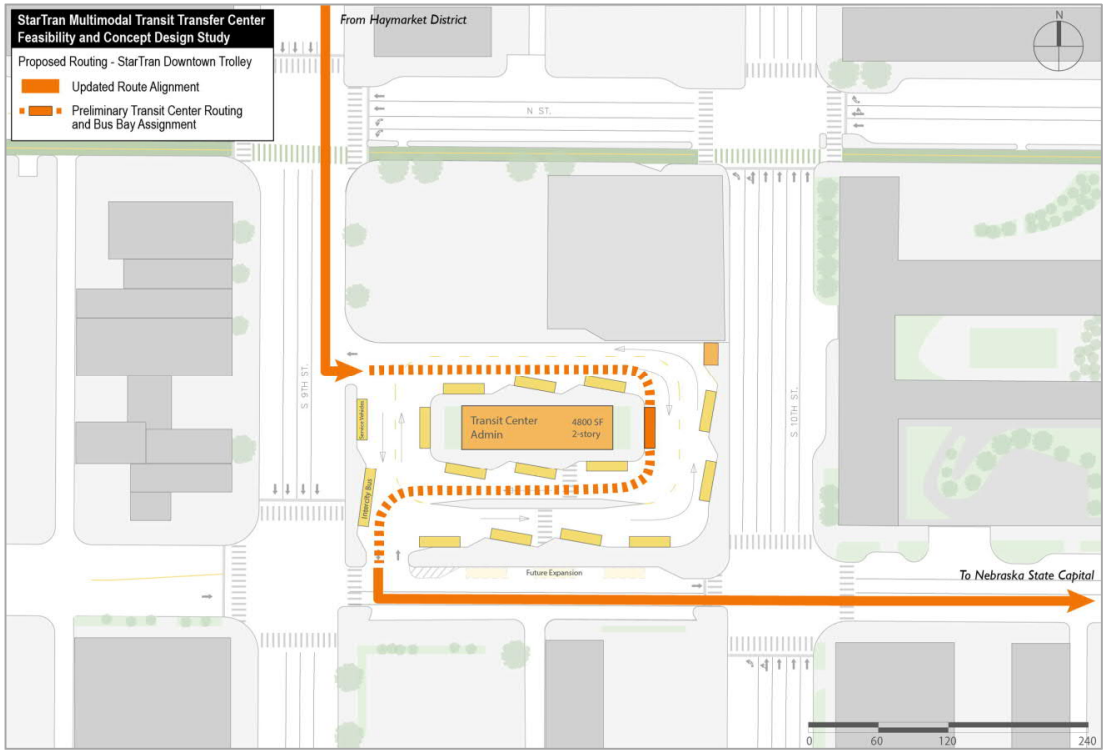


Figure 67: Bay 5 - Route 44 Alignment

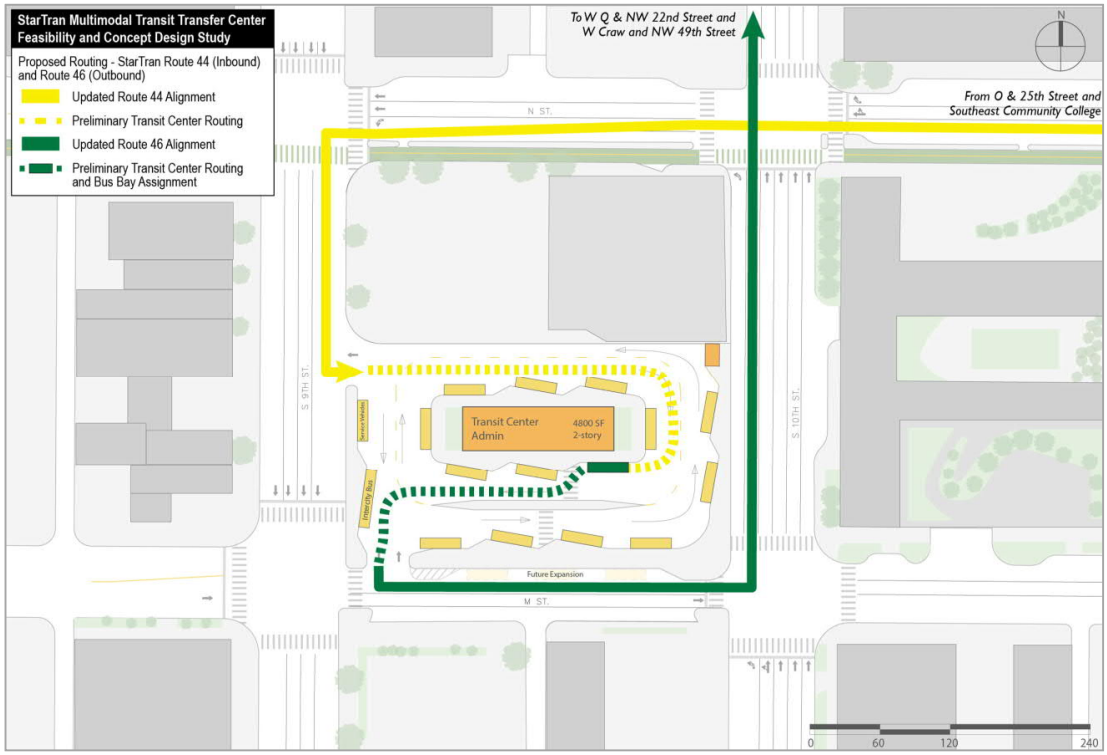


Figure 68: Bay 6 - Route 27 Alignment

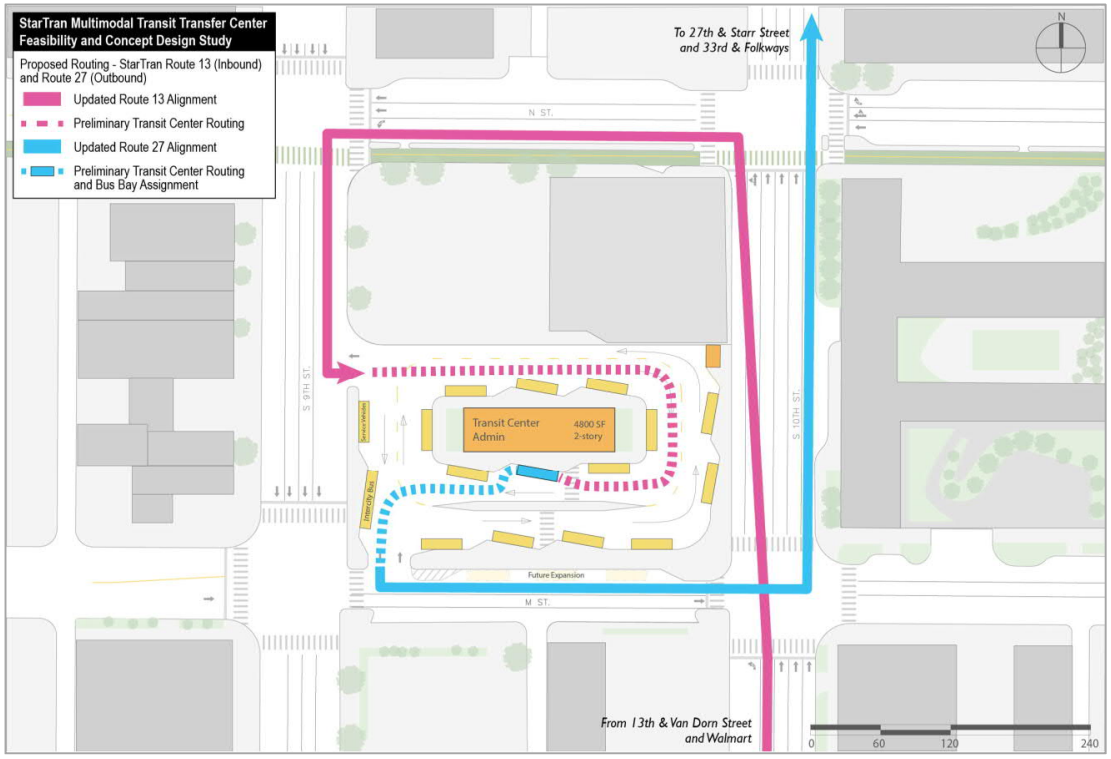


Figure 69: Bay 7 - Route 13 Alignment

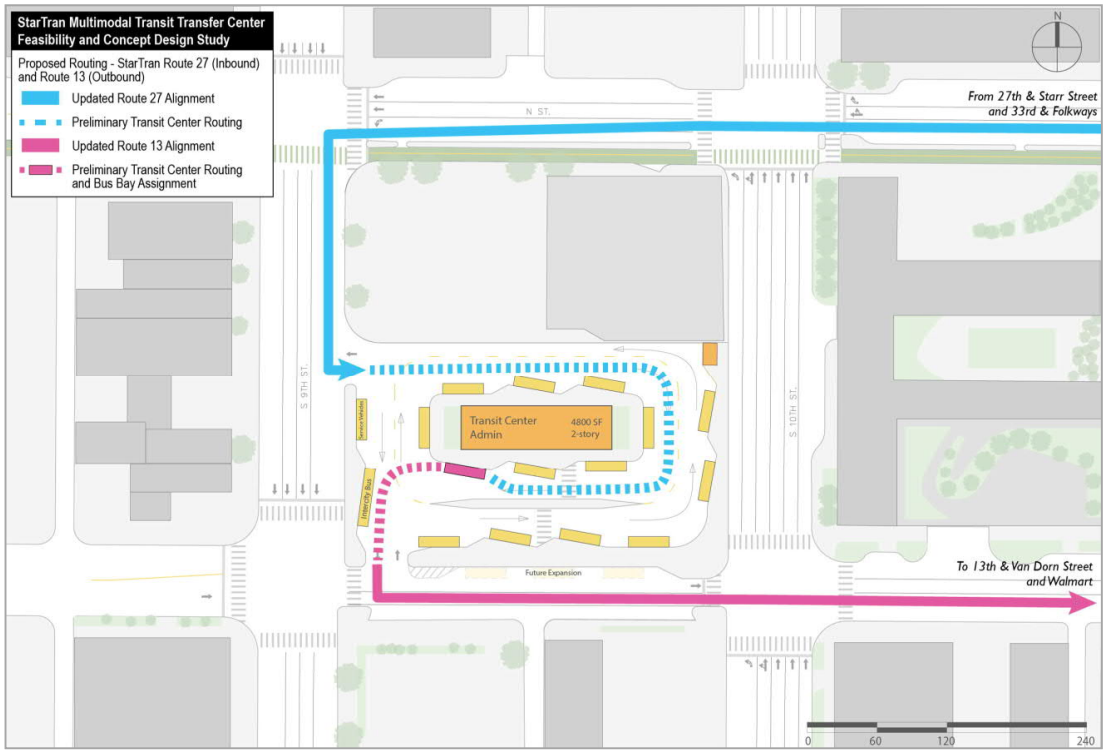


Figure 70: Bay 8 - Route 51 Alignment

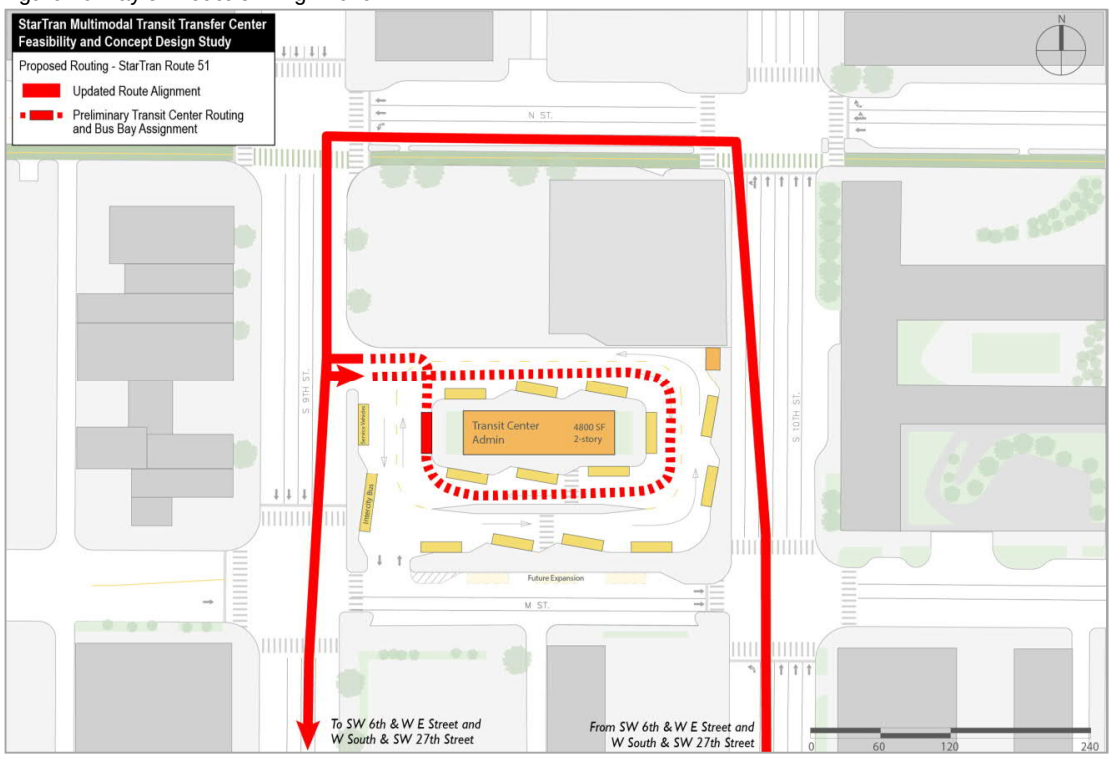


Figure 71: Bay 9 - Route 49 Alignment

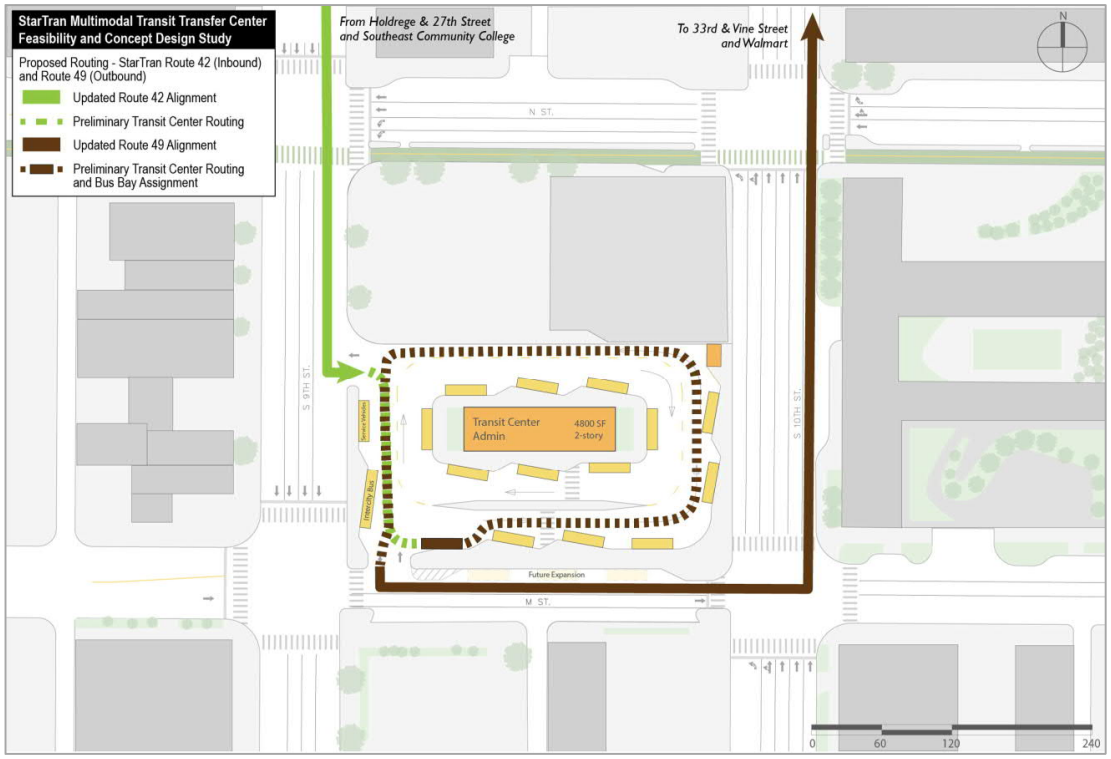


Figure 72: Bay 10 - Route 42 Alignment

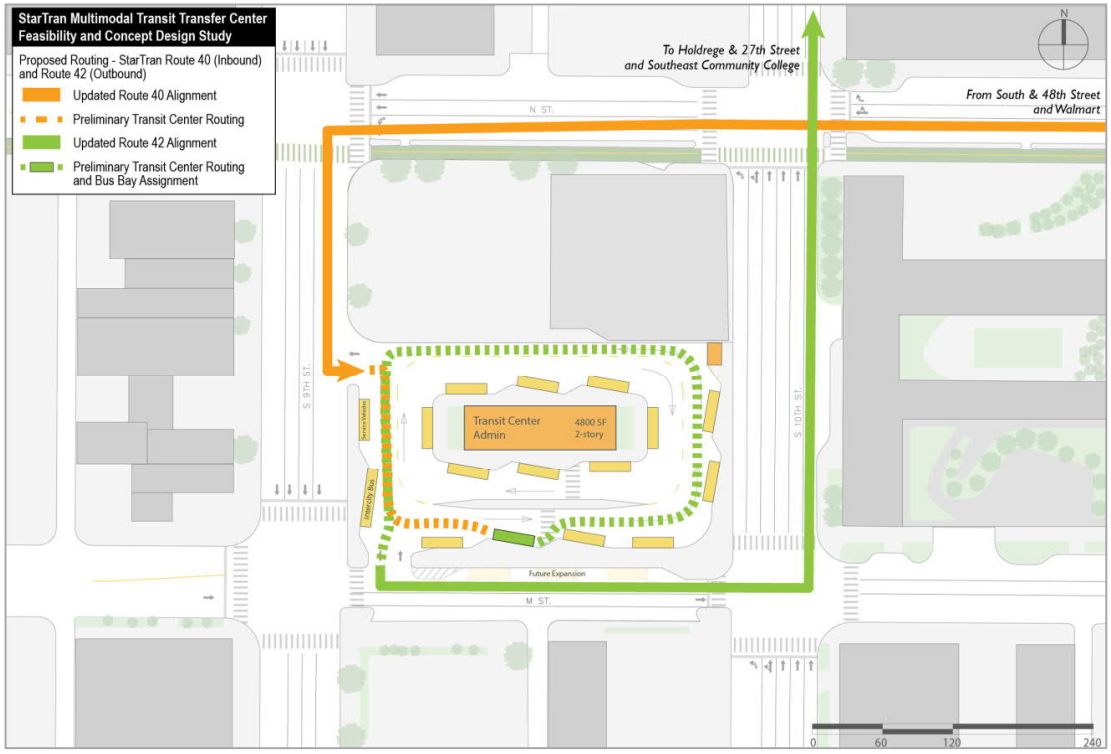


Figure 73: Bay 11 - Route 40 Alignment

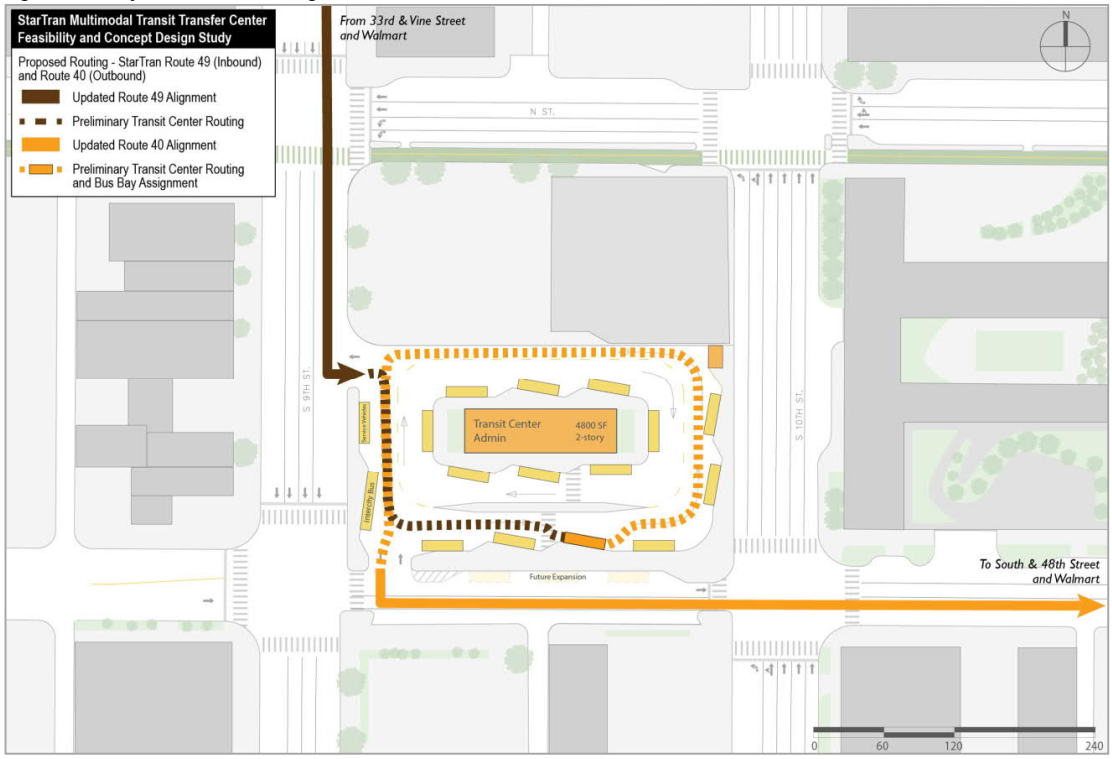


Figure 74: Bay 12 - Route 53 Alignment

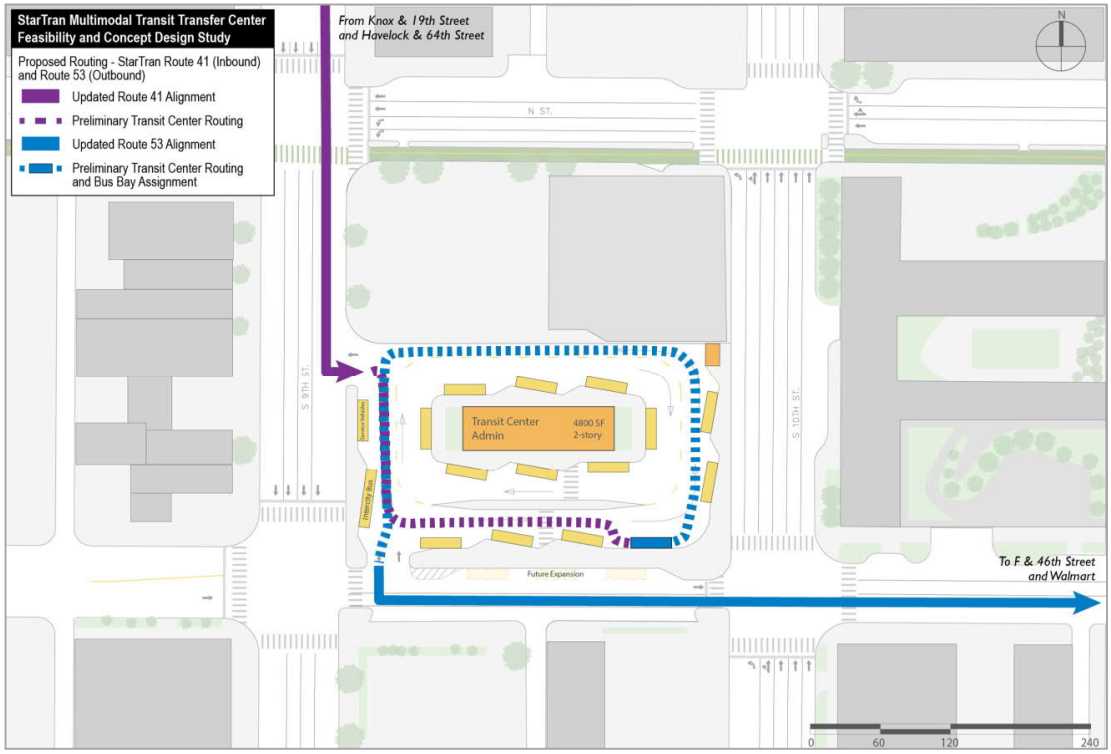


Figure 75: Bay 13 - Route 41 Alignment

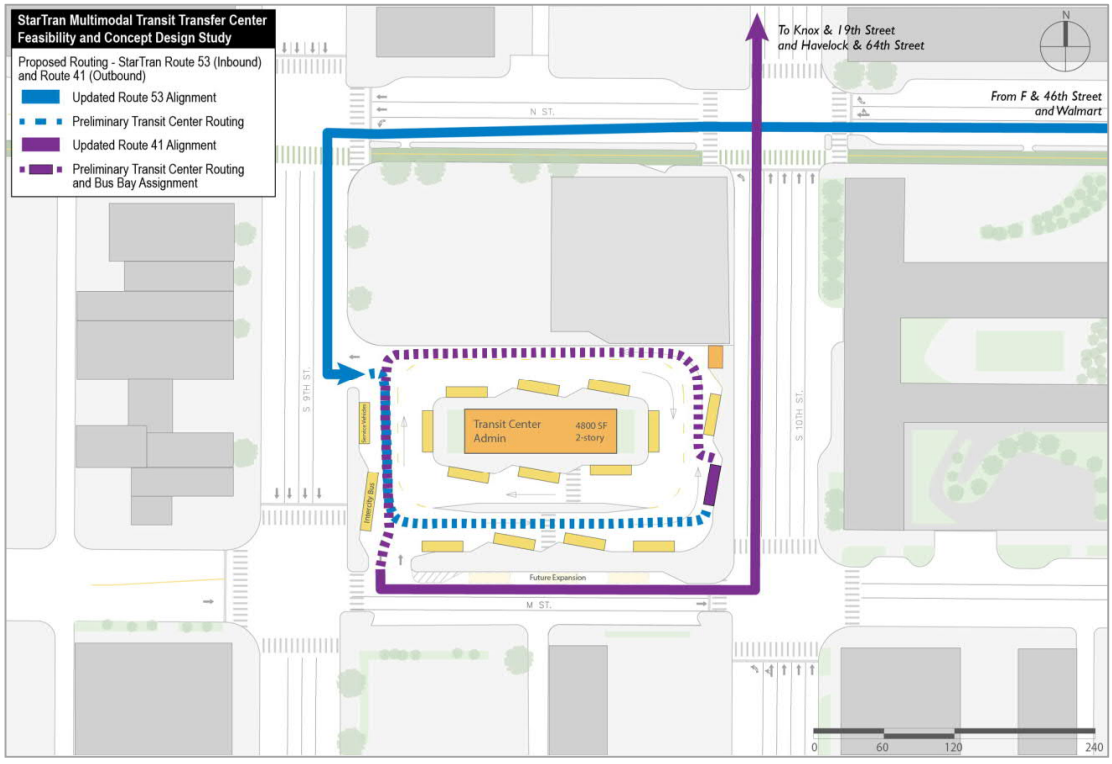
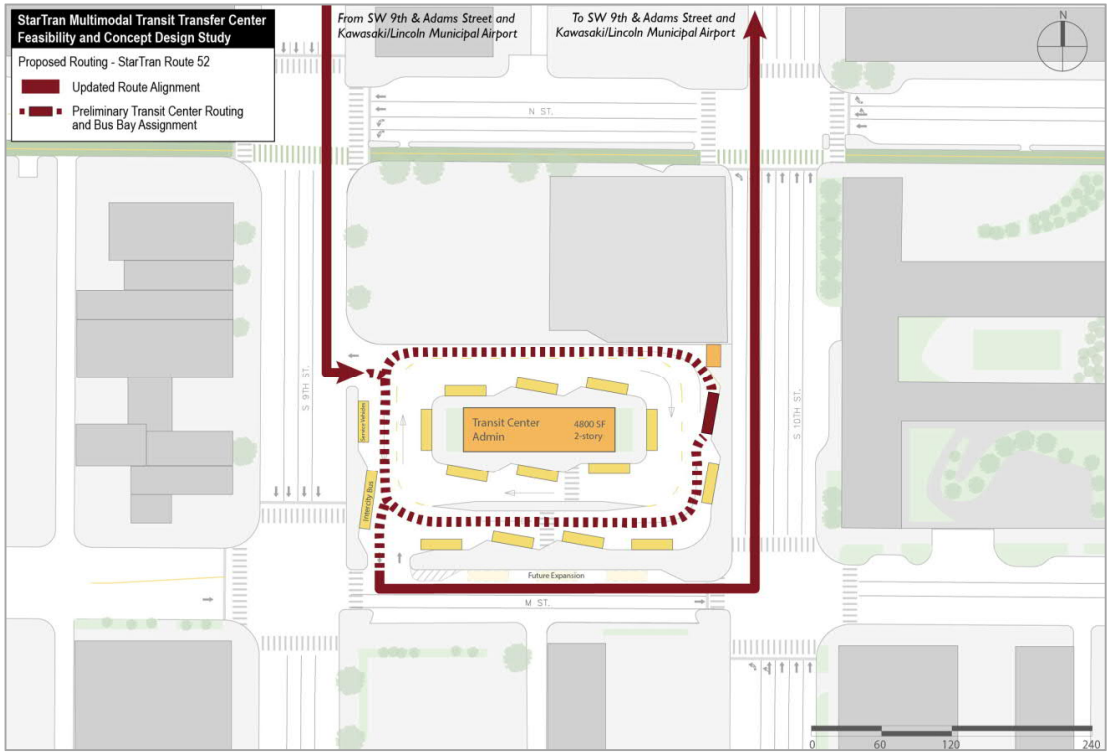


Figure 76: Bay 14 - Route 52 Alignment



This configuration and alignment plan would bring a total of twenty-six buses to the MTTC each hour throughout much of the day. Current traffic volumes were collected and assessed at the intersections surrounding the MTTC's location. All intersections were found to have excess vehicle capacity during both the AM and PM peak traffic periods, meaning that the addition of twenty-six additional vehicles per hour would not inhibit bus operations and bus operations would not cause additional traffic congestion in and around the intersections on 9th Street / M Street and 10th Street / M Street.

4.8.1 Preferred Concept Public Engagement

To collect input from StarTran riders, downtown stakeholders, and residents from across the City of Lincoln a public open house had initially been planned. Due to social distancing precautions from the COVID-19 pandemic, hosting an in-person public meeting at the time of this phase of the MTTC project was infeasible. In order to gather valuable feedback from the community a digital and online engagement method was used to communicate the preferred MTTC concept and other important preliminary findings of the study with the public. This was accomplished in two parts; first a prerecorded summary presentation of the MTTC preferred concept and supporting information was made available on the StarTran MTTC project webpage to provide a high-level overview of the project and preliminary conclusions that would help to inform transit riders and others wishing to provide feedback. Next the study team created a second MetroQuest survey, similar to what had been utilized to collect public input in an earlier phase of the project.

Second MetroQuest Survey Results

As described earlier, MetroQuest is an online survey tool that uses imagery and various respondent activities to collect public feedback. This MetroQuest Survey was accessible to the public through the project's webpage as well as through StarTran's social media platforms. The survey was open for three

weeks. Overall there were 181 MetroQuest surveys completed. The survey was available in English, Spanish and Vietnamese. Five screens were used to inform site visitors about the MTTC Study and to solicit input around preferences for the new facility. The five screens were: Welcome, Image Rating, Top Preference, Tradeoffs and Wrap-Up. The MetroQuest Survey was also adapted into a Survey Monkey format to better accommodate respondents with visual impairments which is described later. The following includes key takeaways from the input received.

Overview: Who Participated in the MetroQuest Survey?

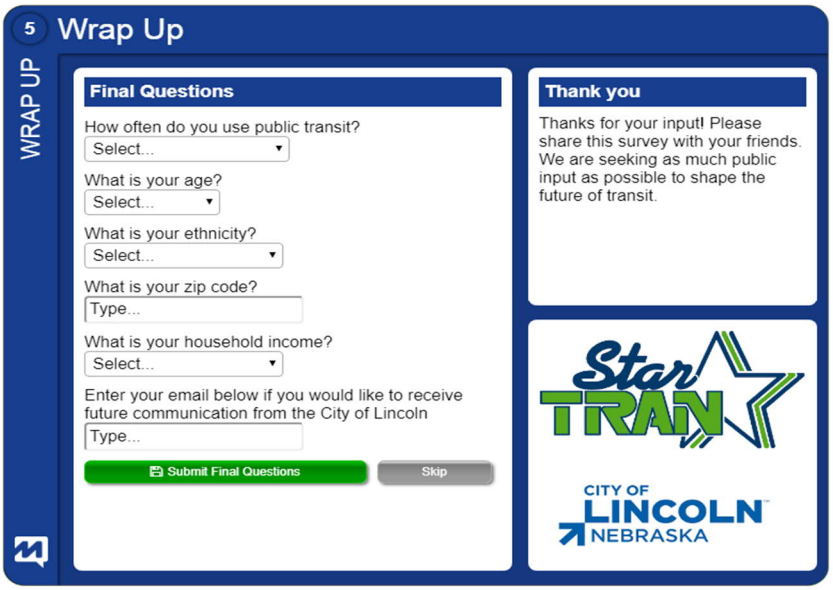
Total participants: 181 (No Spanish surveys included in total). Participation spikes (more than 30) occurred on:

- May 4, 2020 (67 participants)
- May 6, 2020 (35 participants)
- May 7, 2020 (32 participants)

Participants indicated 19 various zip codes; the following were the highest concentration areas:

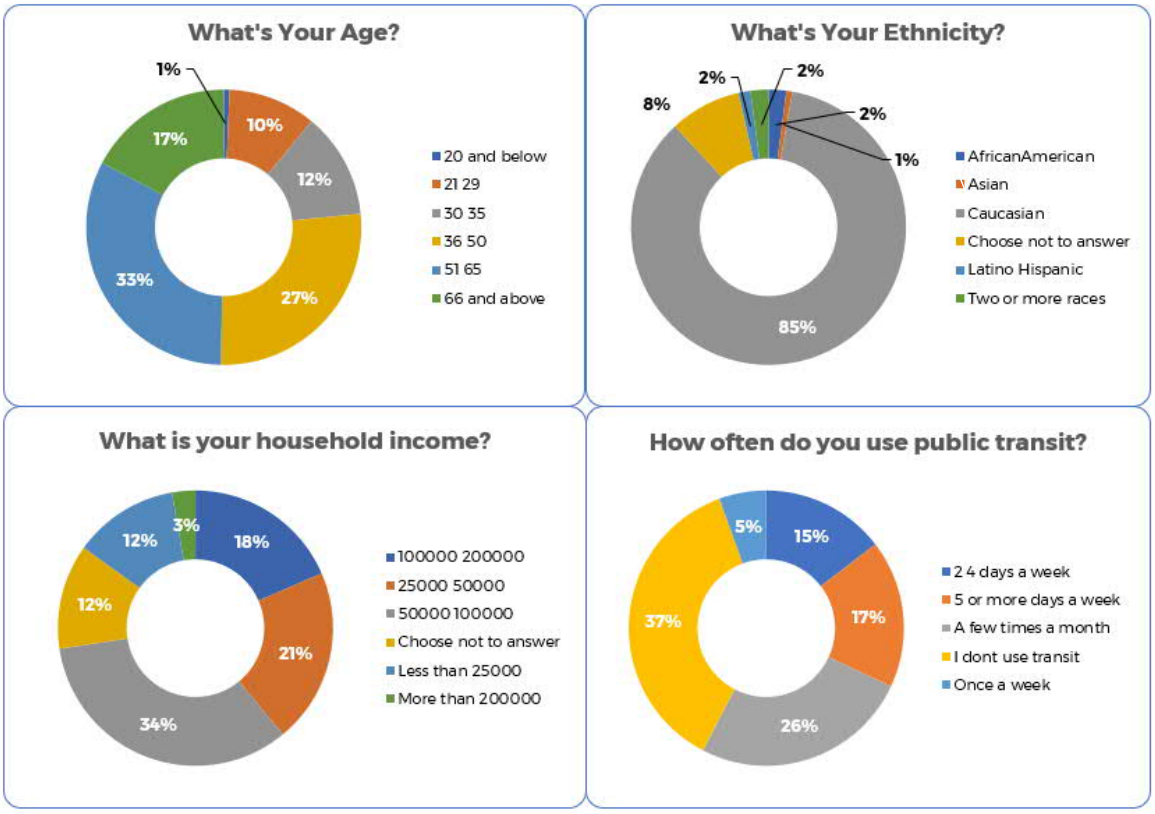
- 68502 (18% of zip codes entered)
- 68506 (13% of zip codes entered)
- 68508 (13% of zip codes entered)
- 68516 (12% of zip codes entered)

Figure 77: MTTC 2nd MetroQuest Survey Demographic Questions Screen



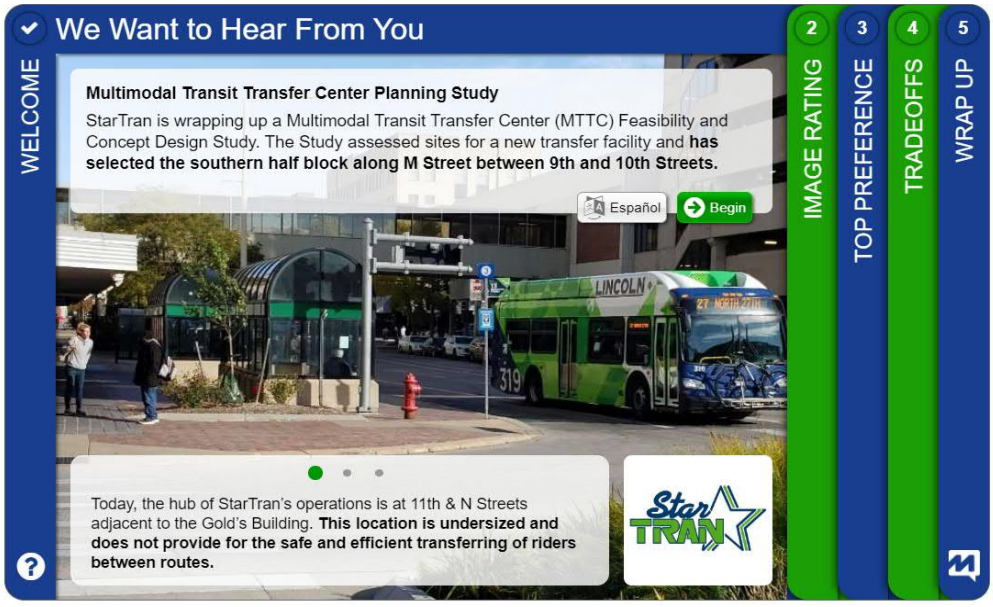
Demographics: The demographic details of the MetroQuest survey participants are displayed in the figure above. Sixty percent of respondents were between the ages of 36 and 65 years of age. Most (63 percent) survey participants ride transit in Lincoln at least a few times a month if not more frequently. Over fifty percent of survey participants reported annual household income at or above $100,000. Eighty percent of survey respondents identified as being Caucasian.

Figure 78: MTTC 2nd MetroQuest Survey Demographics



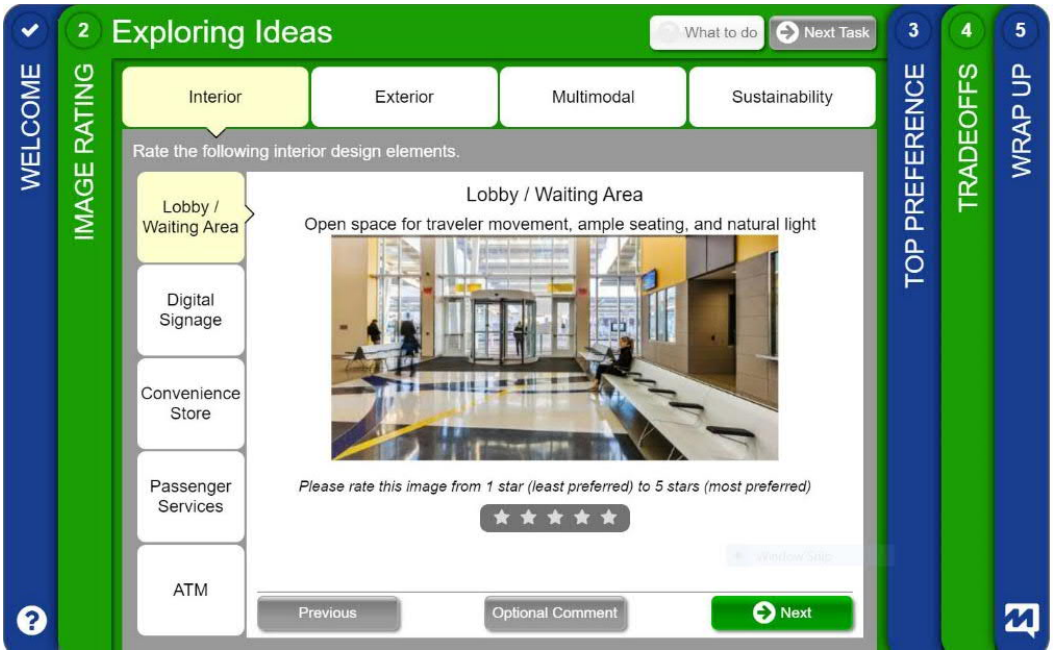
Welcome: The first survey screen provided information about the MTTC Study, the study's goals, and shared how input would be used to help guide the selection of a new transit center site as well as passenger amenities. There were 313 visits to the English version of the MTTC MetroQuest survey site. Visitors are those who may read information but do not provide input (participants).

Figure 79: MTTC 2nd MetroQuest Welcome Screen



Top Ranked Image Rating: The first interactive survey activity through MetroQuest was the ranking of design elements. Participants were asked to consider five design elements for the following areas: Interior, Exterior, Multimodal and Sustainability. They were then asked to rate each element on a scale of one (least preferred) to five (most preferred).

Figure 80: MTTC 2nd MetroQuest Survey Image Rating Screen



The highest ratings for Exterior Design Elements were:

- Covered Platforms
- Radiant Heaters, and
- Digital Displays

The highest ratings for Interior Design Elements were:

- Lobby/Waiting Area
- Digital Signage, and
- Passenger Services

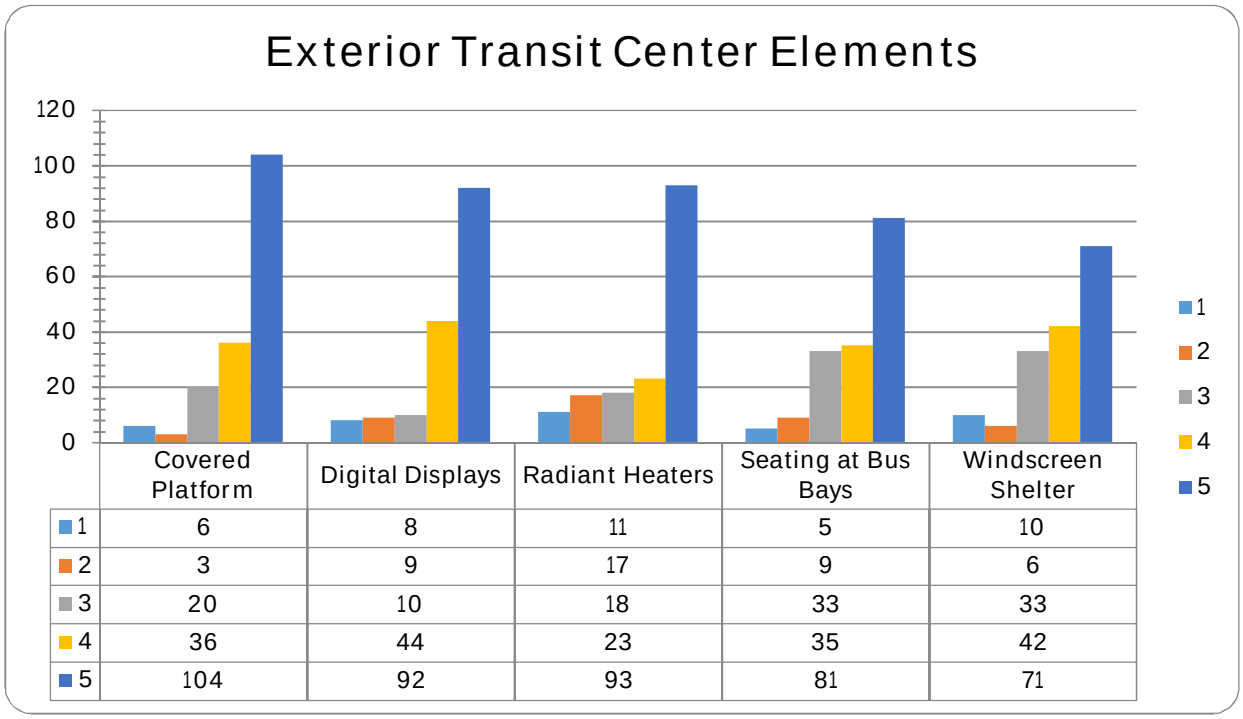
The highest rated Multimodal options included:

- Bike racks
- City bike share, and
- Uber access

All Sustainability options ranked high with Solar being top ranked, followed by LED lighting.

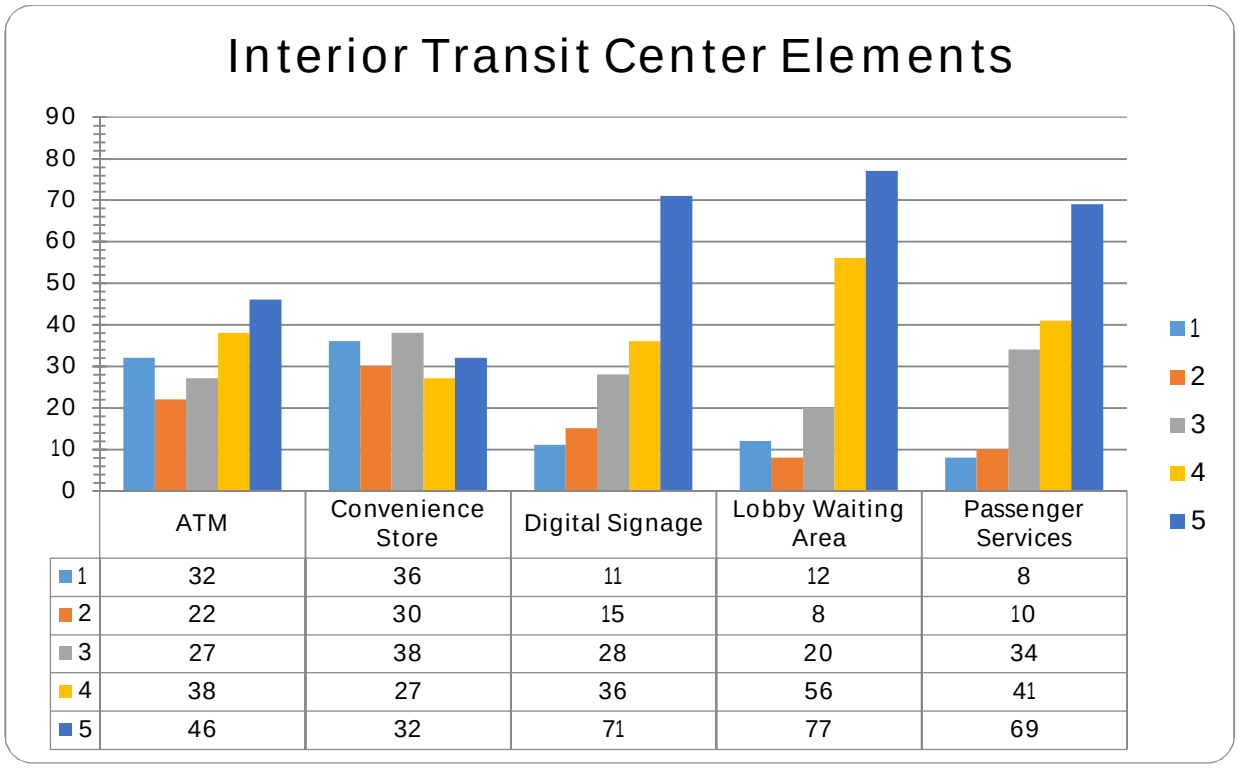
The results of the Image Rating activity are displayed in Figures 81 through 84 below. The rating scale is one star being the lowest and five stars the highest rated for each item.

Figure 81: MTTC 2nd MetroQuest Survey Exterior Ranking (1-5 Stars)



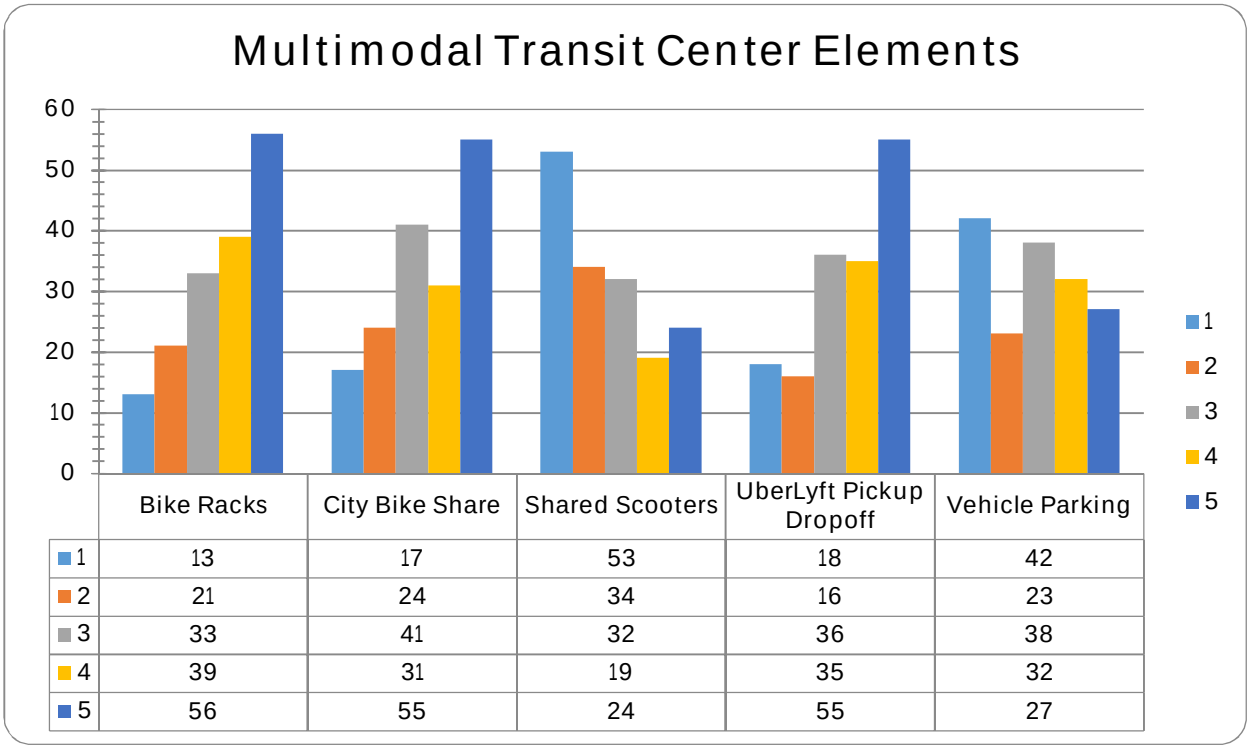
	Covered Platform	Digital Displays	Radiant Heaters	Seating at Bus Bays	Windscreen Shelter
1	6	8	11	5	10
2	3	9	17	9	6
3	20	10	18	33	33
4	36	44	23	35	42
5	104	92	93	81	71

Figure 82: MTTC 2nd MetroQuest Survey Interior Elements Raking (1-5 Stars)



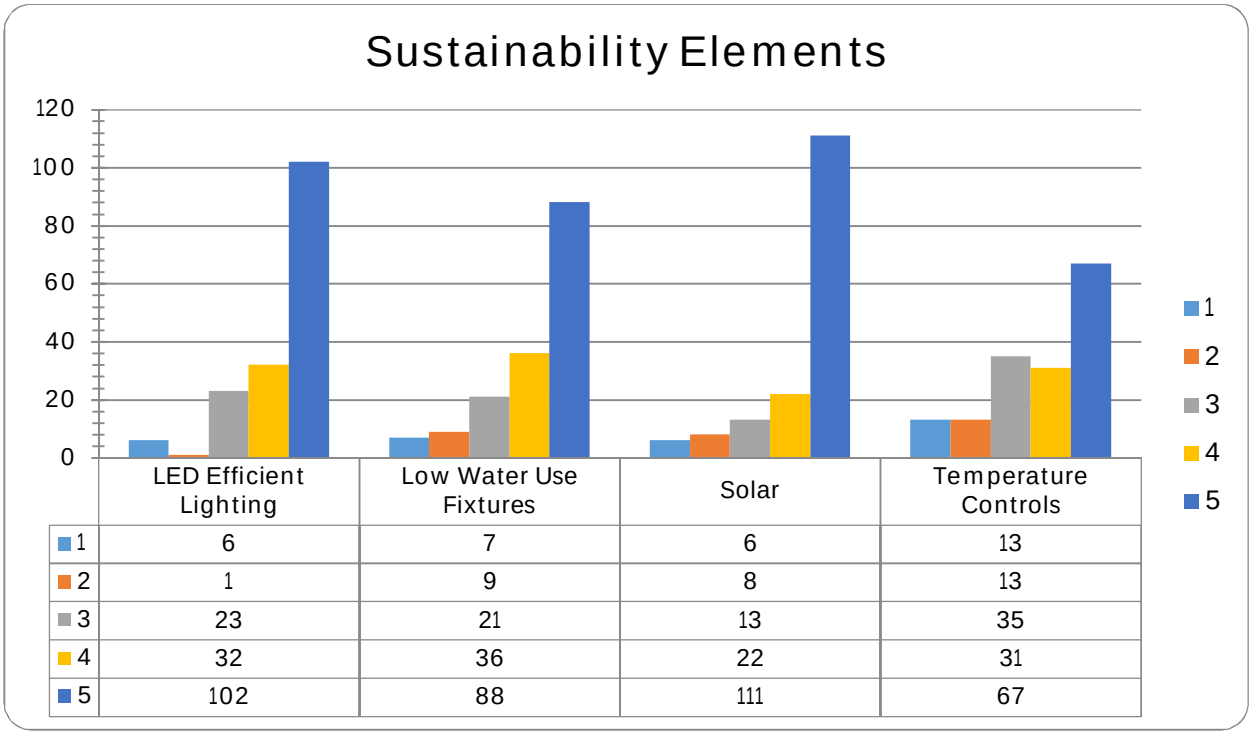
	ATM	Convenience Store	Digital Signage	Lobby Waiting Area	Passenger Services
1	32	36	11	12	8
2	22	30	15	8	10
3	27	38	28	20	34
4	38	27	36	56	41
5	46	32	71	77	69

Figure 83: MTTC 2nd MetroQuest Survey Multimodal Elements Ranking (1-5 Stars)



	Bike Racks	City Bike Share	Shared Scooters	UberLyft Pickup Dropoff	Vehicle Parking
1	13	17	53	18	42
2	21	24	34	16	23
3	33	41	32	36	38
4	39	31	19	35	32
5	56	55	24	55	27

Figure 84: MTTC 2nd MetroQuest Survey Sustainability Elements Ranking (1-5 Stars)



	LED Efficient Lighting	Low Water Use Fixtures	Solar	Temperature Controls
1	6	7	6	13
2	1	9	8	13
3	23	21	13	35
4	32	36	22	31
5	102	88	111	67

Top Preference Transit Center Amenities: The second MetroQuest survey activity asked participants to select their top preferences in the categories of Seating, Shelters, Technology, Art, and Landscaping. The highest ranked option for Seating was a Standard bench style. A Modern shelter design was also most preferred. Digital Displays ranked highest in the Technology category while Integrated and Building Mural art were the top two art preferences. In the category of Landscaping, a Native/Low Maintenance option was most preferred.

Figure 85: MTTC 2nd MetroQuest Survey Seating Style Preference

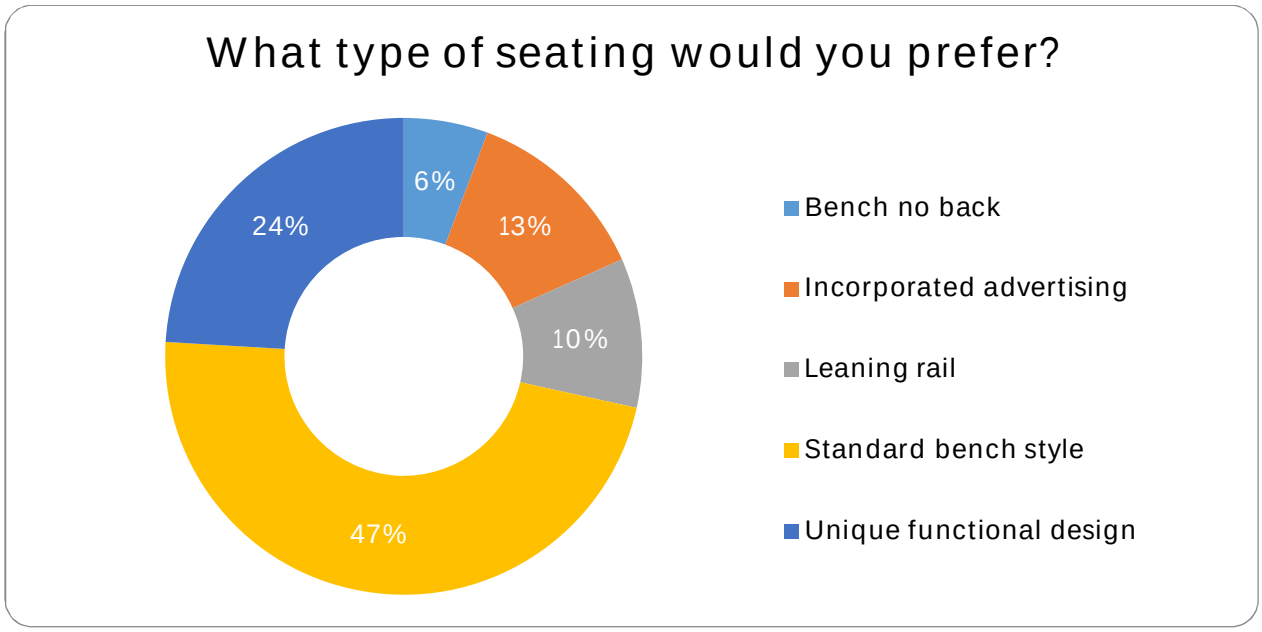


Figure 86: MTTC 2nd MetroQuest Survey Shelter Design Preference

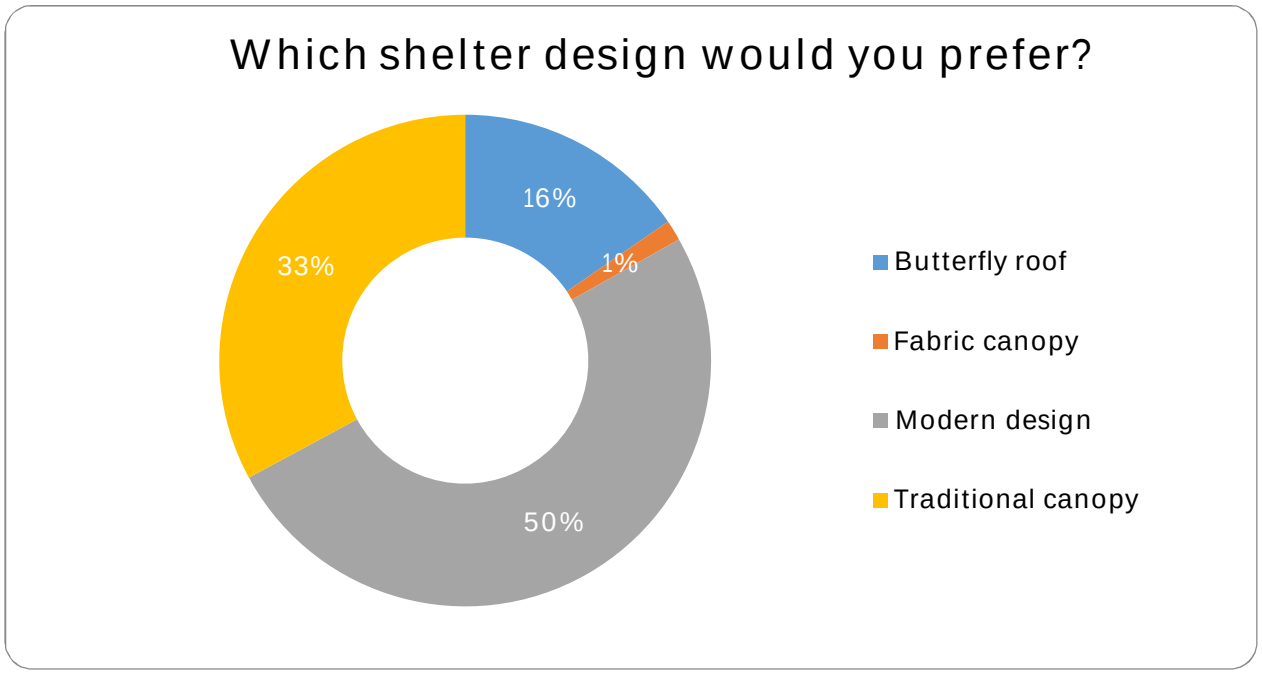


Figure 87: MTTC 2nd MetroQuest Survey Technology Preferences

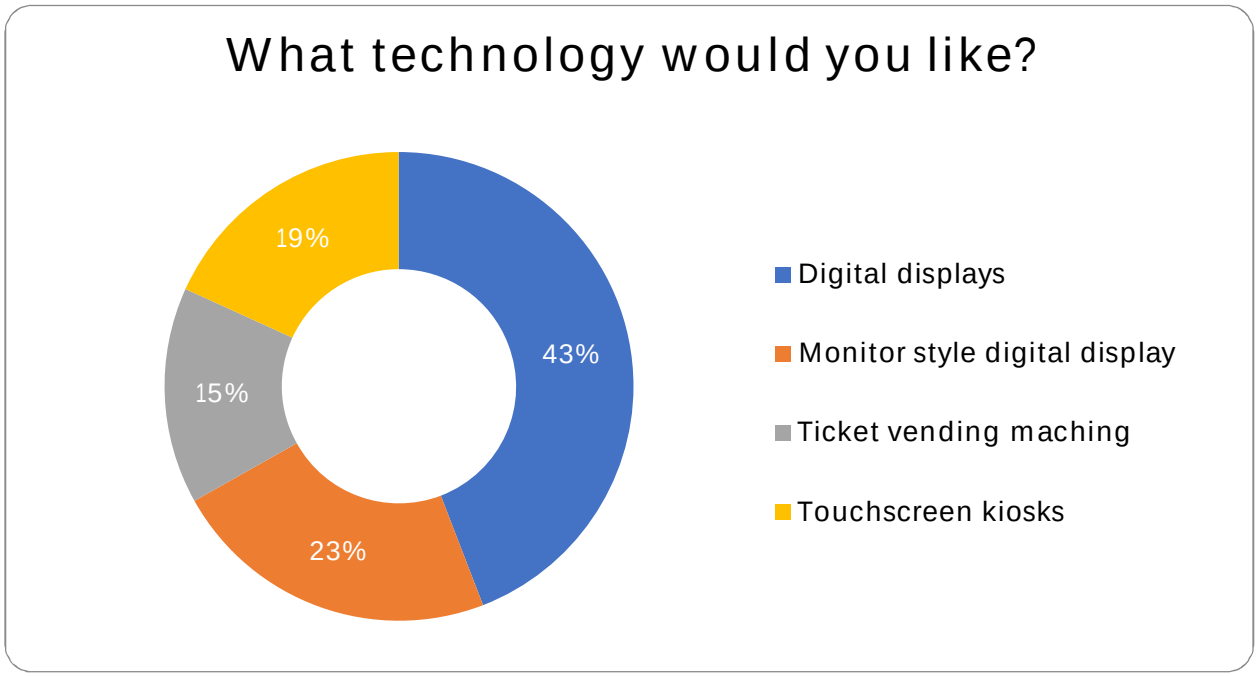


Figure 88: MTTC 2nd MetroQuest Survey Public Art Preferences

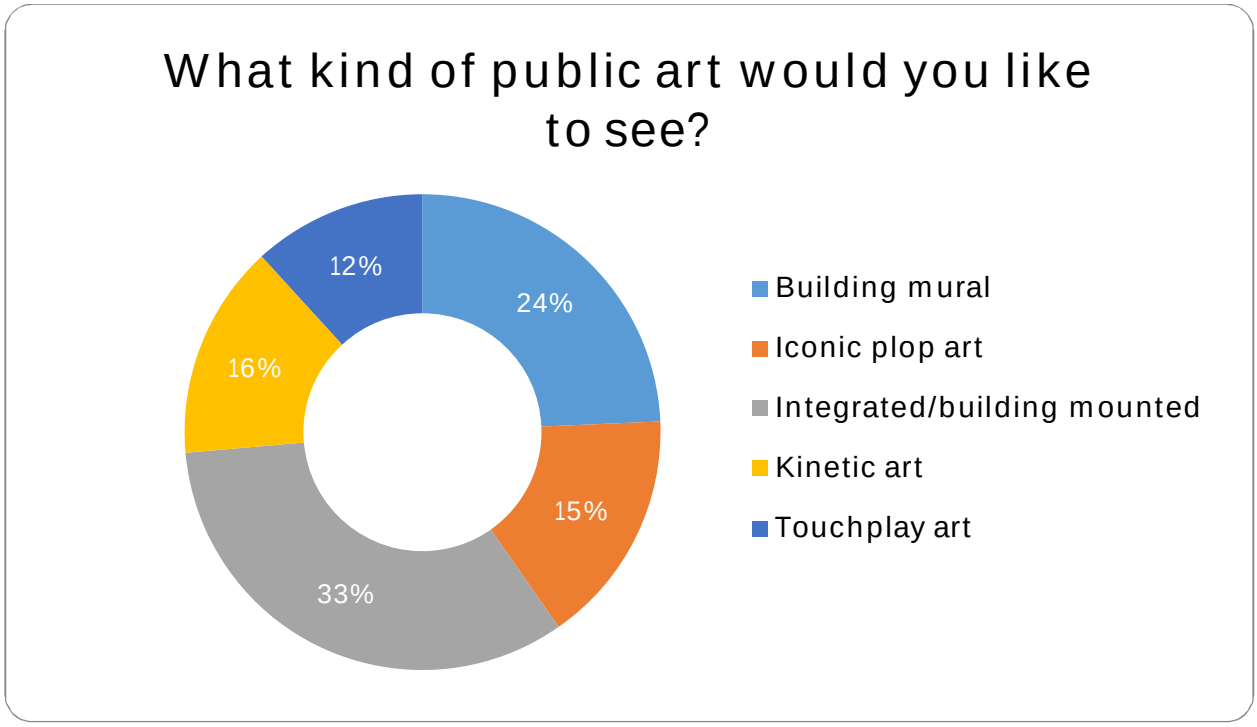
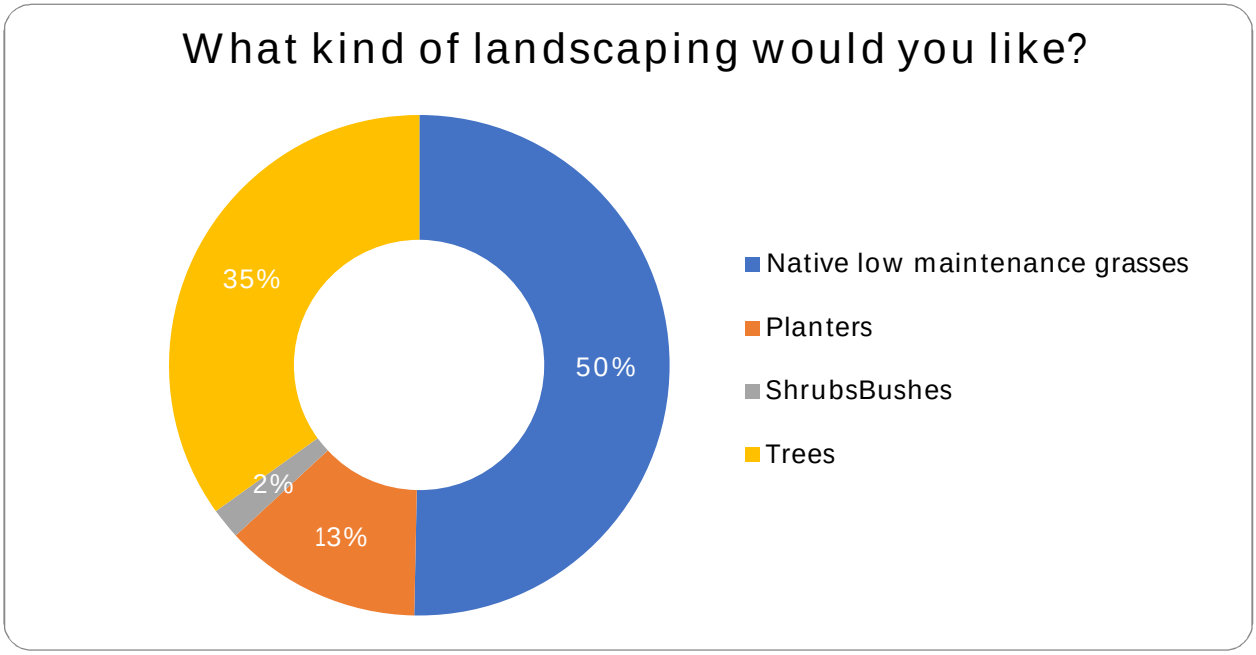
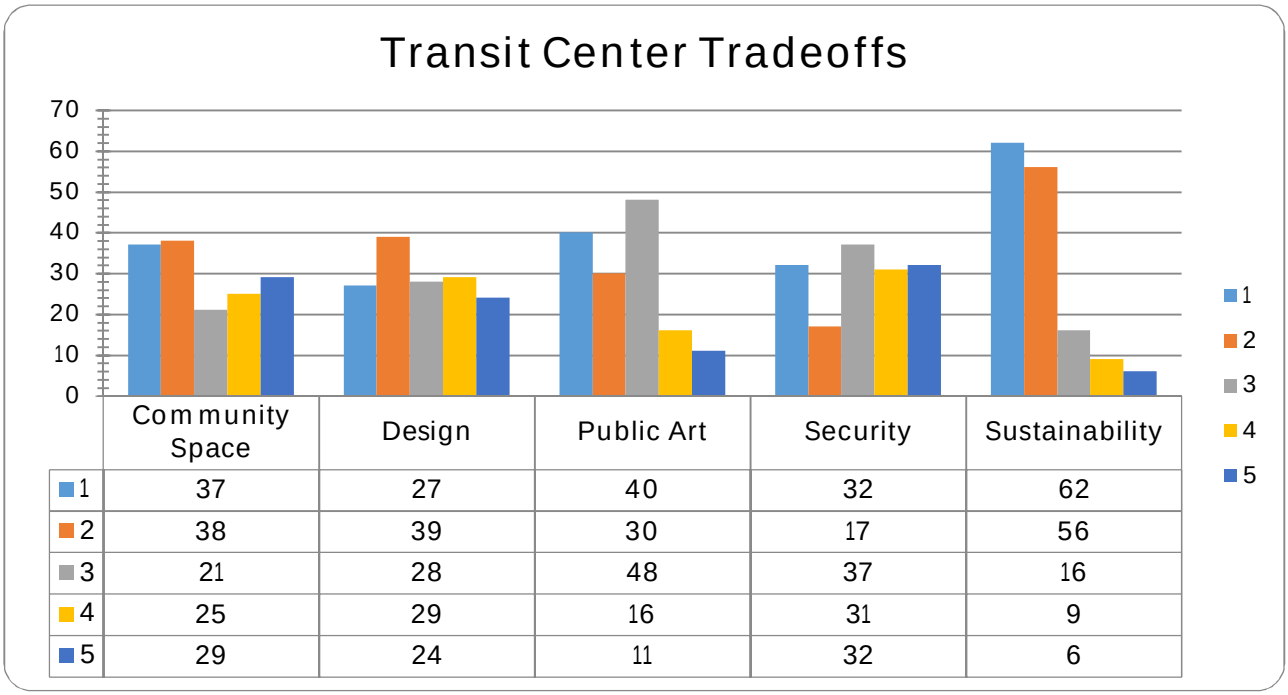


Figure 89: MTTC 2nd MetroQuest Survey Landscaping Preferences



Tradeoffs: The third MetroQuest survey screen asked participants to indicate their preferred tradeoff options. When we look at the overall most popular tradeoff category, a high-performance, sustainable site was the most strongly preferred option by participants. This indicates that respondents are interested in the long-term sustainability of the new transit facility.

Figure 90: MTTC 2nd MetroQuest Survey Facility Tradeoff Preferences



	Community Space	Design	Public Art	Security	Sustainability
1	37	27	40	32	62
2	38	39	30	17	56
3	21	28	48	37	16
4	25	29	16	31	9
5	29	24	11	32	6

Above Legend

Community Space tradeoff spectrum:
1. Preserve space for community interaction & activity
2. Left of neutral
3. Neutral
4. Right of neutral
5. Maintain standard bus service areas

Design tradeoff spectrum:
1. Iconic design
2. Left of neutral
3. Neutral
4. Right of neutral
5. Traditional design

Public Art tradeoff spectrum:
1. Integrate art into the building design
2. Left of neutral
3. Neutral
4. Right of neutral
5. Reserve space for standalone art

Security tradeoff spectrum:
1. Security technology such as cameras
2. Left of neutral
3. Neutral
4. Right of neutral
5. On-site security guard personnel

Sustainability tradeoff spectrum:
1. High-performance site/building
2. Left of neutral
3. Neutral
4. Right of neutral
5. Traditional site/building

SurveyMonkey Summary

The second MTTC MetroQuest survey was also replicated specifically for blind and visually impaired stakeholders using the SurveyMonkey platform.

There were 23 MTTC SurveyMonkey surveys completed. The survey was conducted between April 26 - May 25, 2020. Much like the MetroQuest version, participants were asked 33 questions to solicit input around preferences for the new facility. The following includes key takeaways from the input received.

Overview: Who Participated in the SurveyMonkey Survey?

Participants indicated 8 various zip codes; the following were the highest concentration areas:

- 68508 (30% of zip codes entered)
- 68506 (25% of zip codes entered)

Most respondents indicated that they use public transit five (5) or more days a week (43%). The majority were between the ages of 51-65 (38%) and identified themselves ethnically as White or Caucasian (86%).

Highest-rated elements:
- Covered boarding/waiting and windscreen/shelters
- Interior lobby/waiting area
- Passenger services
- Digital signage (average rating 3.7/5)

Lowest-rated elements:
- Multimodal connections (scooters slightly less than bikes)

- Vehicle parking

Preferred tradeoff options (Scale: 0 to 100; score of 50, neutral):

- Facility Design: Blend in (40)
- Sustainability: Innovative (60)
- Security: Personnel (46)
- Public Art: Integrated (36)
- Dedicated Space: Bus service only (30)

These results indicate that these stakeholders are primarily concerned with facility usability and accessibility.

Combined MTTC 2nd Survey Comments Summary

The MTCC MetroQuest survey received 197 comments. The SurveyMonkey version received 113. An export of all comments is available in Appendix A; the below presents only a few of the comment highlights.

Combined survey comment highlights on the Priority Ranking and Preferences Exercises:

“Center Amenities” comments:

- As a blind individual, a platform/covering makes it easier to locate the bus stop.

“Passenger Services” comments:

- If the people there really know about the system, that could be helpful. Sometimes the people answering the phones don't know it and give misinformation. It would also be necessary to have a specific location that would make it easy to find such people rather than having them roam around wearing some color clothing or hat that many blind people wouldn't be able to identify in that way.
- That would give passengers a designated person(s) to answer questions about bus routes instead of holding up buses. Currently, passengers have to hold up buses to ask questions of the drivers. It would be great if bus passes could be purchased on site as well.

“Digital Signage comments:

- Digital signage needs to be accessible to blind people and people with other print-related disabilities, such as dyslexia.
- Lead an audio medium for those who cannot read text. A small store attached to the waiting area which is an excellent idea
- If the signage either is not accessible to blind people or if it is placed in a location that wouldn't be intuitive for us to find readily, that would be a problem. If it would connect to accessible smart phone apps that would be useful to many, but there are still people who don't use that technology, so it needs to be useable by those folks as well.
- An app or audible way for blind travelers to find out when busses and vehicles are arriving and leaving is important.

4.9 Environmental Review of Preferred Site

Throughout the site evaluation process, environmental considerations were researched and taken into account to identify any potential 'red flag' issues that could cause the MTTC project risks in the future. These environmental red flag issues included review of structures or properties on the National Registry of Historic Places (NRHP), floodplain boundaries, and hazardous waste sites. The preferred site for the MTTC does not have or is not adjacent to any properties or structures that are listed as historic properties in the NRHP. The site in not located in any floodplains according to flood maps produced by the Federal Emergency Management Administration (FEMA). The site does not have any past or active issues for hazardous waste or other contamination cited in data from the Nebraska Department of Environment and Energy[13].

Through this high-level review, the preferred site for the MTTC at M Street, between 10th and 11th Streets appears to not have any obvious red flag environmental issues that could cause a significant risk to the project. More detailed research will be required in future phases of the project. As the MTTC project proceeds, it will need to coordinate closely with the Federal Transit Administration to conduct the analysis and reporting required for the appropriate approvals from the National Environmental Policy Act (NEPA) and determine the class of action need.

There are three classes of action:

1. Categorical Exclusions (23 C.F.R 771.117): Categorical Exclusions (CEs) are granted for actions that do not individually or cumulatively involve significant social, economic or environmental impacts. The projects listed in 23 C.F.R 771.117 require little or no construction and involve minimal or no effects off-site. The regulation gives a list of the types of projects that are categorically excluded. Once FTA has determined that a CE applies, it may act on the application for financial assistance.

2. Environmental Assessments (23 C.F.R 771.119): FTA may require an applicant for financial assistance to prepare an Environmental Assessment (EA) when the significance of the environmental impact is not clearly established. An EA can result in either a Finding of No Significant Impact (23 C.F.R. 771.121) requiring no further environmental evaluation, or identification of potentially significant impacts requiring the applicant to conduct an Environmental Impact Statement.

3. Environmental Impact Statements (23 C.F.R 771.123 et seq.): Depending on the nature of the proposed project, FTA may immediately require applicants to develop an Environmental Impact Statement (EIS), or request an EIS based on the outcome of an EA. In either case, an EIS requires that a substantial technical analysis and public review process be conducted to evaluate project alternatives, identify potential social, economic and environmental impacts of the project, and designate methods to avoid or mitigate these impacts. Successful completion of an EIS results in FTA signing a Record of Decision (ROD). Once FTA has signed a ROD, the applicant can proceed with the project having complied with NEPA and FTA may act on the application for federal assistance[14].

It is likely that the MTTC project would have its NEPA class of action defined as either a Categorical Exclusion or an Environmental Assessment given the minimal impacts to the built or natural environment at the MTTC site.

[13] http://dee.ne.gov/NDEQProg.nsf/OnWeb/MapsData
[14] Federal Transit Administration. NEPA Overview. https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/national-environmental-policy-act