



Grand Rapids Airport Access Study

Technical Memorandum: Practical Alternatives Evaluation

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Quality information

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Purpose

Because of rapid growth at and surrounding the Gerald R. Ford International Airport (GRR), now is an important time to consider how to best facilitate future access to GRR and in the surrounding area. The Grand Valley Metro Council (GVMC) initiated this Grand Rapids Airport Access Study because current access to the airport's central core is limited to the Patterson Avenue and 44th Street/Oostema Boulevard and Patterson Avenue and Van Laar Drive intersections. These routes to GRR lack direct Interstate access, the potential for which was previously studied during planning for the I-96/36th Street interchange.

The Study involves development and consideration of enhancements to airport access, and GVMC is considering a two-step evaluation process that consists of an initial evaluation of conformity with Purpose and Need and a second round of detailed analysis and evaluation to identify Preferred Projects.

The initial screening evaluated the Conceptual Alternatives based on categories of "Support for Purpose and Need", "Potential Right-of-Way and Environmental Impacts" and "Complexity". The alternatives that advanced were deemed as Practical Alternatives for further consideration. This Technical Memo presents the Practical Alternatives (see Appendix) and the evaluation process, and concludes with Preferred Projects (highly-rated alternatives with a consensus for implementation) and Future Options (potential future projects that will require additional study or that could meet longer-term needs).

Evaluation Criteria

The second round of evaluation focuses on detailed analysis on the Practical Alternatives in the following criteria: Transportation Benefits, Planning/Land Use Compatibility, Likely Environmental/ROW Impacts, Estimated Project Cost, and Public Support and Prioritization. The evaluation results will inform the selection of Preferred Projects.

Transportation Benefits

Transportation benefits includes expanded multi-modal access options for GRR, improved connectivity of the surrounding local road and freeway network, and enhanced road network for safety of both motorists and non-motorists. To be specific, they include but are not limited to aspects such as: adding access points, reducing circulating routes, improving safety conditions and improving operation and navigation. On the scale from 0 to 4, with 0 indicating no benefit to 4 indicating high benefit, the Practical Alternatives were evaluated based on the level of positive impact they potentially have on airport access.

Roadway Access

Travel time between existing access (the nearest freeway exit) and the airport take from 4 to 8 minutes, while travel time between proposed access to the airport take from 2 to 3.5 minutes. Alternative 1a provides the shortest route to the airport. All variations of Alternative 3 are M-6 interchange modifications which serve as connectors to the local road access to the airport. In this analysis, they are assumed to be paired with Alternative 2b, a nearest proposed access from M-6 interchanges.

Figure 1 Access from Existing and Proposed Interchanges

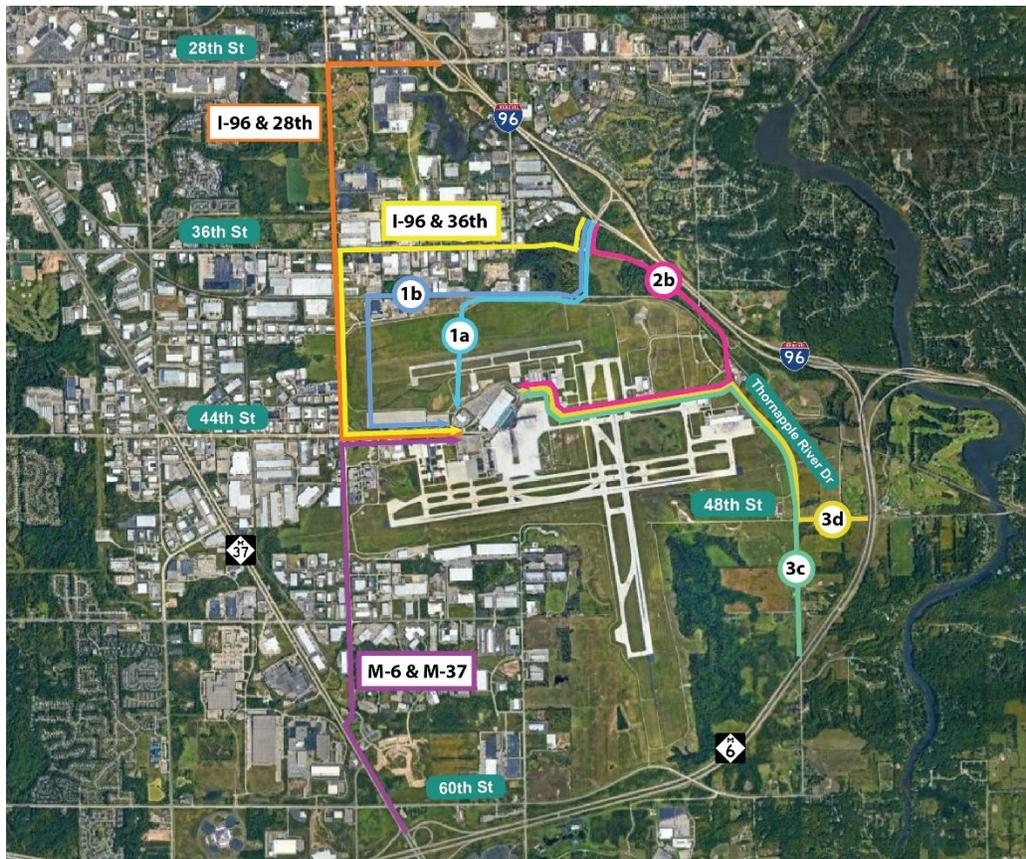


Table 1 Estimated Travel Time of Access from Existing and Proposed Interchanges

	Alternative Variations	Distance	Travel Time (Off-peak)
Existing	I-96 & M-11 (28th Street)	3.5 miles	5-8 minutes
	I-96 & 36th Street	3.3 miles	4-6 minutes
	M-6 & M-37 (Broadmoor Avenue)	3.2 miles	4-6 minutes
Proposed	1a: Direct 36th Access	1.9 miles	2 minutes
	1b: Indirect 36th Access	2.9 miles	3.4 minutes
	2b: Thornapple River Air Cargo (via I-96/36th Street)	2.6 miles	2.5 minutes
	3c: M-6 & Thornapple River Drive (via proposed Air Cargo access)	2.9 miles	3.5 minutes
	3d: M-6 & 48th Street (via proposed Air Cargo access)	2.2 miles	2 minutes

Alternative 1a and *Alternative 2b* provide the most direct access to the airport and time-saving route. Therefore, they are assigned the score of 4. All M-6 Interchange variations focuses on providing connection to local roads instead of direct access, and the ones with a score of 3 both have 48th Street connection, which can be potentially paired with proposed Thornapple River Drive Access to create a direct access for freight and/or passengers from the southwest of the airport. *Alternative 4* focuses on improving the Patterson Avenue/44th Street intersection, which serves as a entrance gate to the airport terminal, with likely congestion relief for better traffic circulation.

Table 2 Evaluation Results of Transportation Benefit for Roadway Access Alternatives

Alternative	Variations	Benefits	Score
1 I-96/36th Street Access	Direct Access	Provides most direct access from I-96	4
	Indirect Access	Provides access from I-96 but does not save significant time	2
2 Thornapple River Drive Access	Secondary Freight Access	Adds new access for only freight traffic	2
	Air Cargo Drive Access	Provides new access from I-96 and M-6	4
3 M-6 Interchange	60th Street Interchange and 60th Street Ring Road	Better connections to SW study area, close to M-37	2
	Thornapple River Drive and 48th Street Partial Interchanges	Connection to SE study area, 48 th bridge connection	3
	48th Street Full Interchange	Connection to SE study area, 48 th bridge connection	3
4 Patterson Avenue /44th Street Safety Enhancements	N/A	Likely congestion and safety benefits	3
5 M-37/Patterson Avenue/60th Street Intersection Enhancements	N/A	Focuses on safety improvements	2

Multi-modal Enhancements

Alternative 1 and *Alternative 2* both provides more access options by transit with expanded service area. *Alternative 4* and *5* focuses on smaller-scale improvements of airport facilities.

Table 3 Evaluation Results of Transportation Benefit for Multi-modal Enhancements Alternatives

#	Alternative	Transportation Benefits	Score
1	Downtown Express Bus/Shuttle	Provides new direct route from downtown to airport	4
2	Expanded Transit Service	Improves transit options, does not add direct Airport route	2
4	Expanded Curb Access/Management	Improves terminal traffic, does not add access	2
5	Pedestrian/Bike Connectivity Enhancements	Improves pedestrian/bike networks and facilities	3

Planning and Land Use Compatibility

Support for airport expansion plans and surrounding growth and development are addressed as part of the study needs. The higher compatibility indicates a general preference of an alternative from a local planning and land use perspective. On a scale of 0 to 4, with 0 indicating no compatibility and 4 indicating high compatibility, the Practical Alternatives are evaluated by whether they are compatible with local plans and how well they respond to these needs.

Roadway Access

Alternative 2a is addressed in the GRR Master Plan update. Therefore, it is assigned the score of 4. *Alternative 2b* proposes a passenger vehicle access near the airport cargo facilities and a new route through the runways, which brings additional construction and undefined alterations of the airport. Therefore, it is given a score of 1 with low compatibility. M-6 Interchange variations create freeway connections on the east side of the airport, which partially aligns with the Airport Master Plan on improving access. However, they are not consistent with the future land use of Cascade Township since the proposed locations are on planned land uses of Suburban Residential and Community Facilities, and both of which are intended to preserve the natural or community aspects with minimal significant freeway infrastructure development.

Table 4 Evaluation Results of Land Use and Compatibility for Roadway Access Alternatives

Alternative	Variations	Compatibility	Score
1 I-96/36th Street Access	1a: Direct Access	Compatible and could be phased in with Airport plans	3
	1b: Indirect Access	Compatible and could be phased in with Airport plans	3
2 Thornapple River Drive Access	2a: Secondary Freight Access	Part of Airport Master Plan	4
	2b: Air Cargo Drive Access	Requires reconfiguration of airport uses	1
3 M-6 Interchange	3a: 60th Street Interchange and 60th Street Ring Road	Compatible with Airport plan and compatible with recent Township Plan; but recent plan update suggests change in focus for area access	1
	3c: Thornapple River Drive and 48th Street Partial Interchanges		1
	3d: 48th Street Full Interchange		2
4 Patterson Avenue /44th Street Safety Enhancements		Supports airport and land use plans	3
5 M-37/Patterson Avenue/60th Street Intersection Enhancements		Builds on current MDOT program	3

Multi-modal Enhancements

All Alternatives show some level of compatibility with local plans or are addressed as part of the Airport Expansion Plan except *Alternative 2*, which is not specifically addressed, but is still consistent with local plans. According to the *Cascade Township Strategic Plan 2022*, there are proposed trail extensions along 60th Street and 48th Street. This applies to *Alternative 5* on enhancing Pedestrian/Bike Connectivity.

Table 5 Evaluation Results of Land Use and Compatibility for Multi-modal Enhancements Alternatives

#	Alternative	Compatibility	Score
1	Downtown Express Bus/Shuttle	Consistent with Airport and other plans	4

2	Expanded Transit Service	Compatible with plans; no documented jurisdiction support	2
4	Expanded Curb Access/Management	Part of the Airport Plan	4
5	Pedestrian/Bike Connectivity Enhancements	Part of the Airport Plan	4

Likely Environmental and Right-of-Way Impacts

Likely environmental and right-of-way impacts of the alternatives involves potential for a project to impact surrounding community properties, landscapes and natural environment. Each alternative's right-of-way impacts are assessed based on potential area of properties required for construction, and environmental impacts are assessed based on potential area of waterway and floodplain impacted by construction.

On a scale of 0 to 4, with 0 indicating high impacts and 4 indicating minimal impacts, the Practical Alternatives are evaluated based on whether they will require environmental and/right-of-way mitigation and their level of impact.

Roadway Access

Alternative 1 and *Alternative 3* are assigned a score of 2 since both of them have higher impact on existing airport properties and adjacent properties. They also require wetland mitigation near 36th Street or Thornapple River.

Table 6 Evaluation Results of Likely Environmental and Right-of-Way Impact for Roadway Access Alternatives

Alternative	Variations	Level of Impacts	Score
1	I-96/36th Street Access		
	1a: Direct Access	Wetlands challenges may require mitigation	2
	1b: Indirect Access		2
2	Thornapple River Drive Access		
	2a: Secondary Freight Access	Minimal wetland/waterway impact	4
	2b: Air Cargo Drive Access		4
3	M-6 Interchange		
	3a: 60th Street Interchange and 60th Street Ring Road		2
	3c: Thornapple River Drive and 48th Street Partial Interchanges	Wetlands challenges may require mitigation	2
	3d: 48th Street Full Interchange		2
4	Patterson Avenue /44th Street Safety Enhancements	Minimal wetland/waterway impact	4
5	M-37/Patterson Avenue/60th Street Intersection Enhancements	Minimal wetland/waterway impact	4

Multi-modal Enhancements

All alternatives have minimal wetland/waterway impact.

Table 7 Evaluation Results of Likely Environmental and Right-of-Way Impact for Multi-modal Enhancements Alternatives

#	Alternative	Level of Impacts	Score
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1	Downtown Express Bus/Shuttle	Minimal wetland/waterway impact	4
2	Expanded Transit Service	Minimal wetland/waterway impact	4
4	Expanded Curb Access/Management	Minimal wetland/waterway impact	4
5	Pedestrian/Bike Connectivity Enhancements	Minimal wetland/waterway impact	4

Estimated Project Cost

The project cost estimate¹ indicates the construction cost and overall construction complexity of the Practical Alternatives. Practical Alternatives are evaluated on a score from 0 to 4, with 0 indicating high cost and 4 indicating low cost.

Roadway Access

Evaluation of the roadway access alternatives includes a detailed construction estimate of several variations. *Alternative 1a*, *1b* and *Alternative 2b* all require tunnel construction and airfield costs of the route relocation within the GRR airport properties. Therefore, their estimated project costs are significantly higher than others. Both *Alternative 4* and *Alternative 5* focuses on safety enhancement, which are small-scale road facilities improvements. They will have relatively low costs.

Table 8 Evaluation Results of Estimated Project Cost for Roadway Access Alternatives

#	Alternative	Variations	Construction Cost	Score
1	I-96/36th Street Access	1a: Direct Access	\$157 million	1
		1b: Indirect Access	Pending (similar to 1a)	1
2	Thornapple River Drive Access	2a: Secondary Freight Access	\$2 million	4
		2b: Air Cargo Drive Access	\$285 million	0
3	M-6 Interchange	3a: 60th Street Interchange	\$22 million	2
		3c: Thornapple River Drive and 48th Street Partial Interchanges	\$15 million	3
		3d: 48th Street Full Interchange	\$23 million	2
		Optional Ring Road Add-On	\$9 million	N/A
4	Patterson Avenue /44th Street Safety Enhancements		Pending (relatively low)	3
5	M-37/Patterson Avenue/60th Street Intersection Enhancements		Pending (relatively low)	3

Multi-modal Enhancements

Alternative 1 and *Alternative 2* require additional operation cost for expanded transit service. *Alternative 4* and *Alternative 5* require lower project cost for small-scale improvements on airport facilities.

Table 9 Evaluation Results of Estimated Project Cost for Multi-modal Enhancements Alternatives

#	Alternative	Construction/Operation Cost	Score
1	Downtown Express Bus/Shuttle	Medium cost from \$800K to \$1.8 million depending on chosen concept	2

¹ The construction cost estimates are in 2022 dollars and use MDOT average unit prices as of June, 2022 where applicable. Estimates do not include costs for environmental analysis, engineering design or construction engineering, right-of-way, wetland or other environmental mitigation costs, or private utility relocations.

2	Expanded Transit Service	Medium operational project cost	2
4	Expanded Curb Access/Management	Low project cost	4
5	Pedestrian/Bike Connectivity Enhancements	Low project cost	4

Public Support and Prioritization

Public support and prioritization considers feedback from public, communities and local jurisdictions. An online public survey opened from August to September gained input on possible airport access improvements and the Practical Alternatives. Besides, local jurisdictions suggested preferences or concerns over certain alternatives during meetings. All of the information is gathered and concluded as level of support on each alternative.

Practical Alternatives are evaluated on a scale from 0 to 4, with 0 indicating no support to 4 indicating high support. The results are shown in the table below.

Roadway Access

Alternative 1a received the highest rating with the most positive ratings from the online survey. All M-6 interchange variations, which are *Alternative 3* received mixed views from local jurisdictions, while they had relatively high support according to the ratings and comments from the online survey.

Table 10 Evaluation Results of Public Support and Prioritization for Roadway Access Alternatives

	Alternative	Variations	Public Input	Score
1	I-96/36th Street Access	1a: Direct Access	Highest support from public	4
		1b: Indirect Access	Medium support from public	2
2	Thornapple River Drive Access	2a: Secondary Freight Access	Medium support from public	2
		2b: Air Cargo Drive Access	Favorable input from public	3
3	M-6 Interchange	3a: 60th Street Interchange and 60th Street Ring Road		2
		3c: Thornapple River Drive and 48th Street Partial Interchanges	Relatively high support from public + mixed opinions from local jurisdictions	2
		3d: 48th Street Full Interchange		2
4	Patterson Avenue /44th Street Safety Enhancements		Medium support from public	2
5	M-37/Patterson Avenue/60th Street Intersection Enhancements		Medium support from public	2

Multi-modal Enhancements

Alternative 1 received the highest rating according to the online survey. Both *Alternative 2* and *Alternative 3* were also overall supported by the public, with most of the ratings from “Neutral” to “Strongly like”. A few comments also addressed congestion issues at the terminal curb and possible curb expansion efforts.

Table 11 Evaluation Results of Public Support and Prioritization for Multi-modal Enhancements Alternatives

#	Alternative	Public Input	Score
1	Downtown Express Bus/Shuttle	Highest support from public	4
2	Expanded Transit Service	Relatively high support from public	3
4	Expanded Curb Access/Management	Medium support from public	2
5	Pedestrian/Bike Connectivity Enhancements	Relatively high support from public	3

Evaluation Results

Roadway Access

An average score of all evaluation categories for each alternative is calculated as the overall score. *Alternative 1a*, *Alternative 2a*, *Alternative 4* and *Alternative 5* all have relatively higher overall scores than the other alternatives. They have the potential to be selected as Preferred Projects.

Table 12 Roadway Access Alternatives Evaluation Result Summary

#	Alternative	Variations	Transportation Benefit	Land Use Compatibility	Environmental /ROW Impacts	Estimated Project Cost	Public Support and Prioritization	Overall Score
1	I-96/36th Street Access	1a: Direct Access	4	3	2	1	4	2.8
		1b: Indirect Access	2	3	2	1	2	2.0
2	Thornapple River Drive Access	2a: Secondary Freight Access	2	4	4	4	2	3.2
		2b: Air Cargo Drive Access	4	1	4	0	3	2.4
3	M-6 Interchange	3a: 60th Street Interchange and 60th Street Ring Road	2	1	2	2	2	1.8
		3c: Thornapple River Drive and 48th Street Partial Interchanges	3	1	2	3	2	2.2
		3d: 48th Street Full Interchange	3	2	2	2	2	2.2
4	Patterson Avenue /44th Street Safety Enhancements		3	3	4	3	2	3.0
5	M-37/Patterson Avenue/60th Street Intersection Enhancements		2	3	4	3	2	2.8

Multi-Modal Enhancements

An average score of all evaluation categories for each alternative is calculated as the overall score. Both *Alternative 1* and *Alternative 5* receive higher score than the other alternatives. They have the priorities to be selected as Preferred Projects.

Table 13 Multi-modal Enhancements Alternatives Evaluation Result Summary

#	Alternative	Transportation Benefit	Land Use Compatibility	Environmental/ ROW Impacts	Estimated Project Cost	Public Support and Prioritization	Overall Score
1	Downtown Express Bus/Shuttle	4	4	4	2	4	3.6
2	Expanded Transit Service	2	2	4	2	3	2.6
4	Expanded Curb Access/Management	2	4	4	4	2	3.2
5	Pedestrian/Bike Connectivity Enhancements	3	4	4	4	3	3.6

Preferred Projects & Future Options

Preferred Projects generally have high priorities to be considered for implementation. Alternatives that can be accomplished within 5 years are near-term alternatives, while long-term alternatives need additional planning to determine specific timeline for implementation.

Roadway Access

According to the evaluation results, Preferred Roadway Access Projects are the following:

- I-96/36th Street Access Direct Access (Long-term)
- Thornapple River Drive Secondary Freight Access (Near-term)
- Patterson Avenue /44th Street Safety Enhancements (Near-term)
- M-37/Patterson Avenue/60th Street Intersection Enhancements (Near-term)

Alternative 1b: I-96/36th Street Access Indirect Access and *Alternative 2b: Air Cargo Drive Access* are do not qualify due to their lower overall score. By preference, *Alternative 1a: I-96/36th Street Access Direct Access* will be the primary focus of a new airport access point. But it requires additional time for implementation due to the high cost and coordination with potential airport runway construction.

For *Alternative 3 (M-6 Interchanges)* the two options accessing 48th Street are preferred based on their enhanced connectivity to east-west connectivity and pathways to the Airport. However, additional M-6 interchanges are not seen as a near-term priority either for the region or for the local jurisdiction (Cascade Township). Additional interchange access at these locations will be considered as future options for possible long-term implementation to support any additional growth in trip-making and need for access on the east side of the airport.

Multi-Modal Enhancements

According to the evaluation results, Preferred Multi-Modal Enhancement Projects for implementation are the following:

- Downtown Express Bus/Shuttle (Near-term)
- Pedestrian/Bike Connectivity Enhancements (Near-term)

Alternative 2: Expanded Transit Service requires further coordination with transit operators and local jurisdictions to both fund and plan for service needs over the long term. *Alternative 4: Expanded Curb Access/Management* will remain a focus of Airport expansion efforts. Both of these enhancements are considered for long-term implementation.

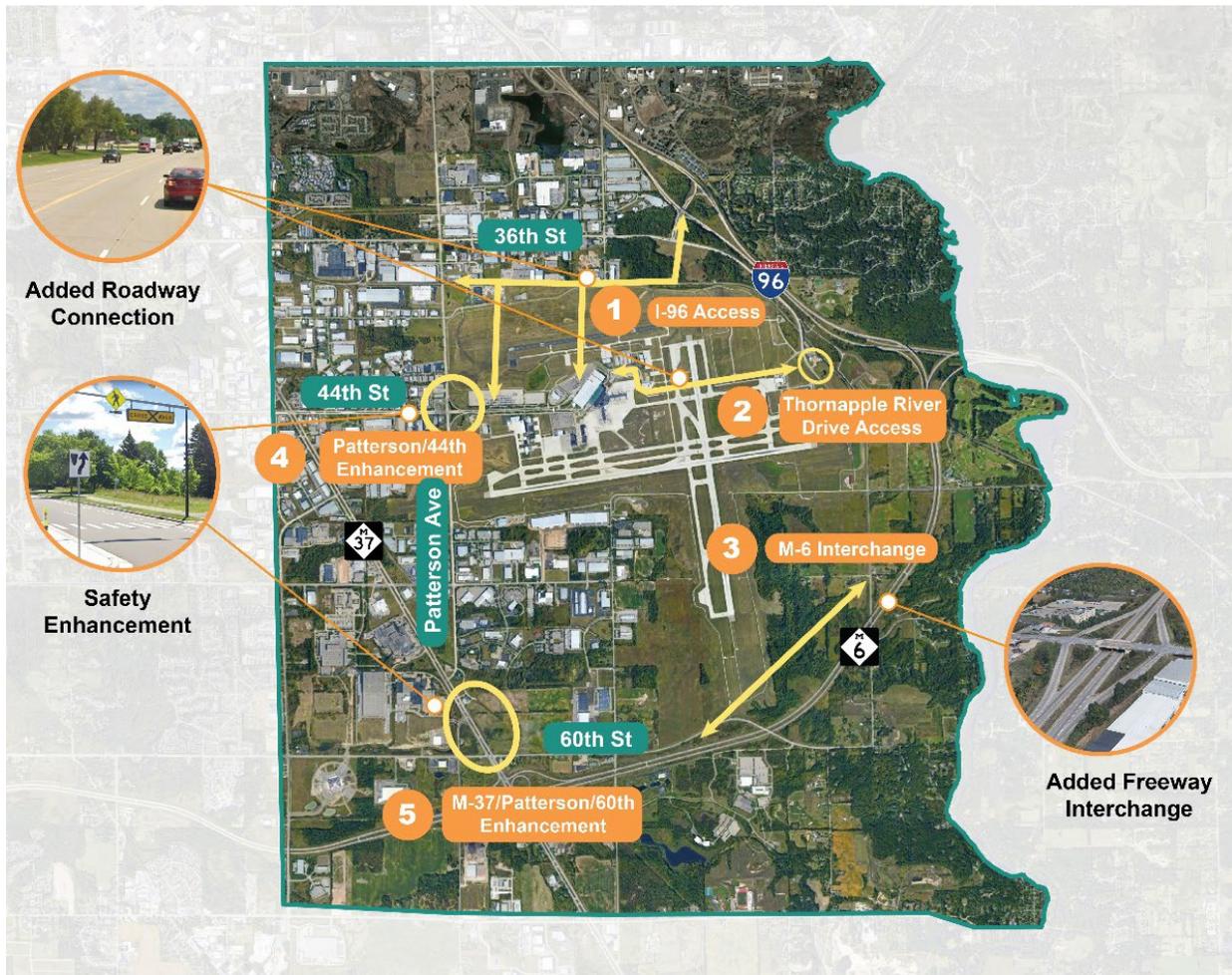
Appendix: Practical Alternatives

Airport Roadway Access

Overview

Current airport roadway access for passengers is limited to the Patterson Avenue and 44th Street intersection and the Patterson Avenue and Van Laar Drive intersection. Alternatives for airport roadway access include access points, roadway connections, freeway interchange and intersection safety enhancements.

Figure 1: Airport Roadway Access Practical Alternatives



Alternative 1: I-96/36th Street Access

1a – Direct 36th Street Access

This alternative extends the I-96/36th Street interchange south of 36th Street to create a direct roadway connection to the airport. It includes a tunnel below the current and future expanded runway and avoids parking expansion zone on north side of terminal. This access would relieve traffic entering the airport from Patterson Avenue and adds redundancy to the current airport access network.



1b – Indirect 36th Street Access

This alternative extends the I-96/36th Street interchange south of 36th Street and creates an indirect connection around the end of ultimate runway footprint to the 44th Street segment east of Patterson Avenue. Compared to the existing primary access, this alternative does not have a significantly more direct path, but it adds redundancy and avoids the 44th Street/Patterson Avenue intersection. At the end of the runway, the roadway stays below grade to avoid interference with the runway protection zone. In the long run, a tunnel may be needed for the expanded future runway.



Alternative 2: Thornapple River Drive Access

2a – Secondary Freight Access

This alternative adds a new access point on Thornapple River Drive near the current freight access point next to FedEx Ship Center, which supports the growing cargo operations hub. This access enhancement is a portion of the Airport’s recent Master Plan.



2b – Air Cargo Drive Access

This alternative adds a new roadway access from Thornapple River Drive. It relocates the connection of Air Cargo Drive and Thornapple River Drive, and provides a direct connection to the airport terminal and parking lots. The roadway goes under the runway as a widened tunnel. There is possible impact on the existing building 205 (ARFF station) and/or future parking ramp of the airport terminal parking lots.



Alternative 3: M-6 Interchange

3a – 60th Street Interchange

This alternative adds a full M-6 interchange at the existing 60th Street bridge. This provides new access point for the developing industrial area at south end of the airport; and could help separate freight traffic from passenger traffic. An optional ring road could be extended from 60th Street on the south end of the airport along M-6 and connect the interchange to Thornapple River Drive. This could be implemented as adjacent land uses develop, as a way to remove business travel from residential areas and support campus development activity in Caledonia.



3c – Thornapple River Drive and 48th Street Split Interchange

This alternative adds a split M-6 interchange on Thornapple River Drive with northbound entrance and southbound exit, and on 48th Street with northbound exit and southbound entrance, which are connected by weave-merge lanes on M-6. The option could be combined with a ring road that is extended from 60th Street on the south end of the airport along M-6 and connects it to Thornapple River Drive.



3d – 48th Street Full Interchange

This alternative adds a full M-6 interchange on 48th Street. This could be combined with an optional ring road that is extended from 60th Street on the south end of the airport along M-6, connecting it to Thornapple River Drive.



Alternative 4: Patterson Avenue /44th Street Intersection Enhancements

This alternative focuses on the current and future airport gateway at the Patterson/44th intersection, improving safety and traffic operations. Currently, this intersection is a significantly high crash activity spot with an incomplete pedestrian network. Planned enhancements include a new roadway connection to the surface parking areas, the removal of right turn drives, and a protected southbound to eastbound left turn to reduce angle accidents.



Alternative 5: M-37/Patterson Avenue /60th Street Intersection Enhancements

This alternative focuses on safety enhancements at the M-37/Patterson Avenue/60th Street intersections, which serve as the primary pathway to the airport from south and M-6. Currently, these intersections have the highest crash activity within the study area. There is curve warning and signal ahead signages on Patterson Avenue near M-37. Potential enhancements include EB to SB right turn lane marking extension to reduce side swipe accidents on 60th Street, added signs and arrow markings on SB 60th Street, added lane use signs and arrow markings on SB M-37 and WB 60th Street to reduce sideswipe and angle accidents, and a planned widening (adding lanes) along M-37 by MDOT.

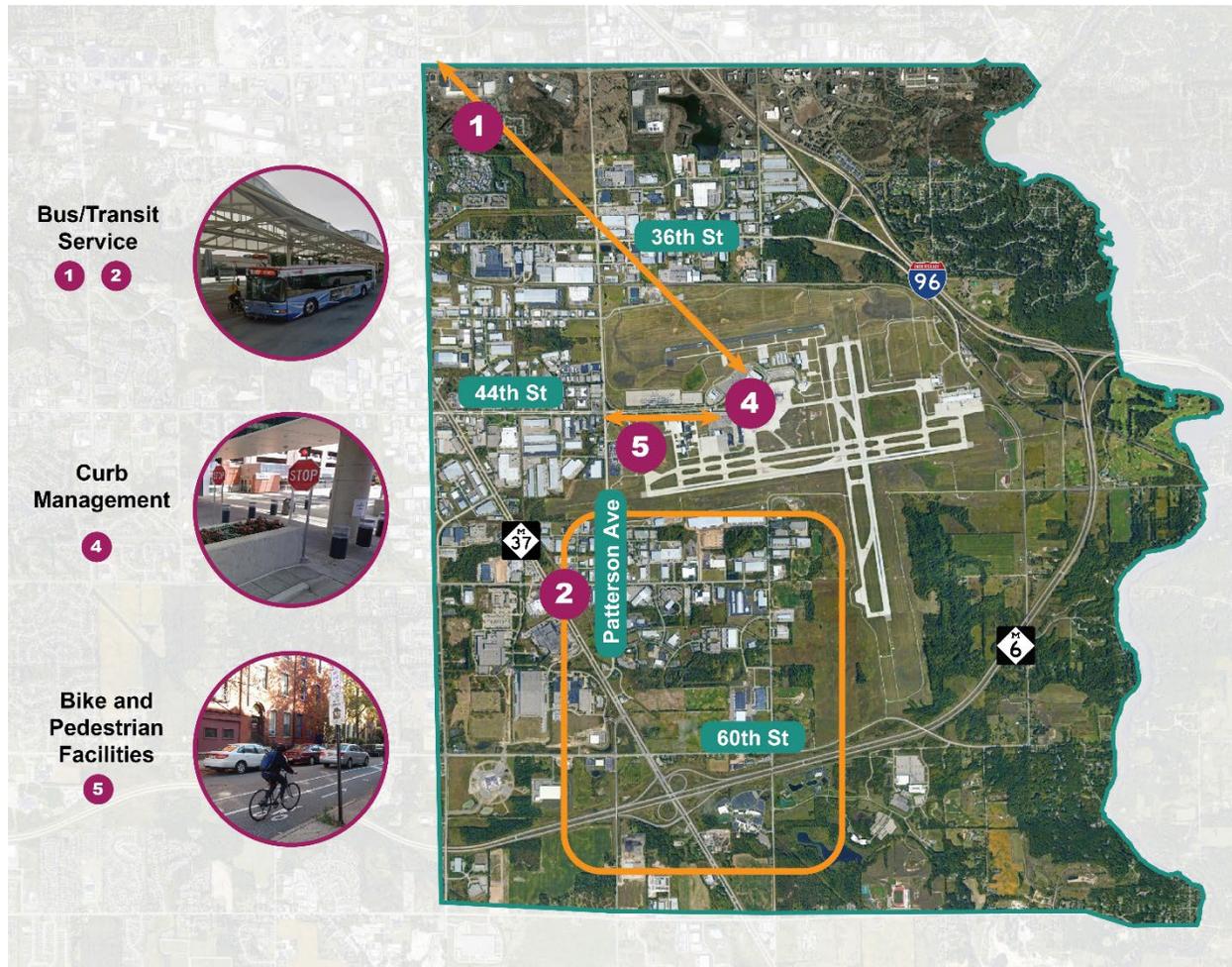


Multi-Modal Enhancements

Overview

Multi-modal enhancement alternatives include transit, bike and pedestrian features, which could provide opportunities to expand access options and improve airport access.

Figure 2: Multi-modal Access Features



Bus/Transit Service

1 2



Curb Management

4



Bike and Pedestrian Facilities

5



Alternative 1: Downtown Express Bus/Shuttle

In 2006, The Rapid launched Air Porter, a shuttle service between Downtown Grand Rapids and the airport. The shuttle service was downsized and later closed in 2008 due to lack of consistent ridership. In 2021, *The Rapid Comprehensive Operational Analysis Preferred Alternative* recommended relaunching a similar express bus/shuttle service from Downtown Grand Rapids to the airport.

Alternative 2: Expanded Transit Service (Cascade/Caledonia)

The Rapid could consider expanding its transit service in Caledonia and Cascade Charter Township by adding fixed-route bus service or Rapid Connect, an on-demand service that allows customers to book rides that connect to The Rapid's regular bus system in real-time via

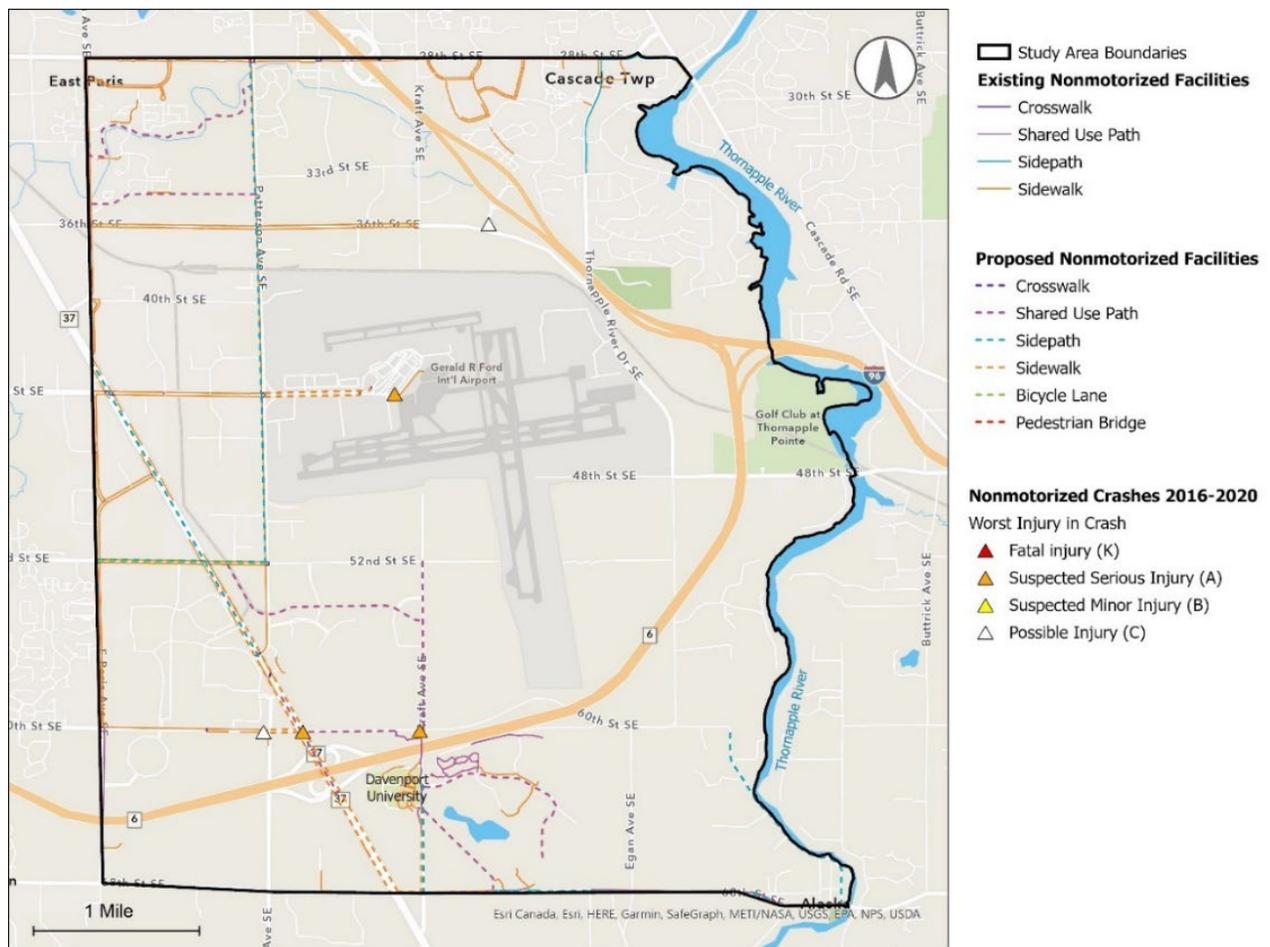
mobile app. The expanded transit service would add more options for people in these two regions to access the airport.

Alternative 4: Expanded Curb Access/Management

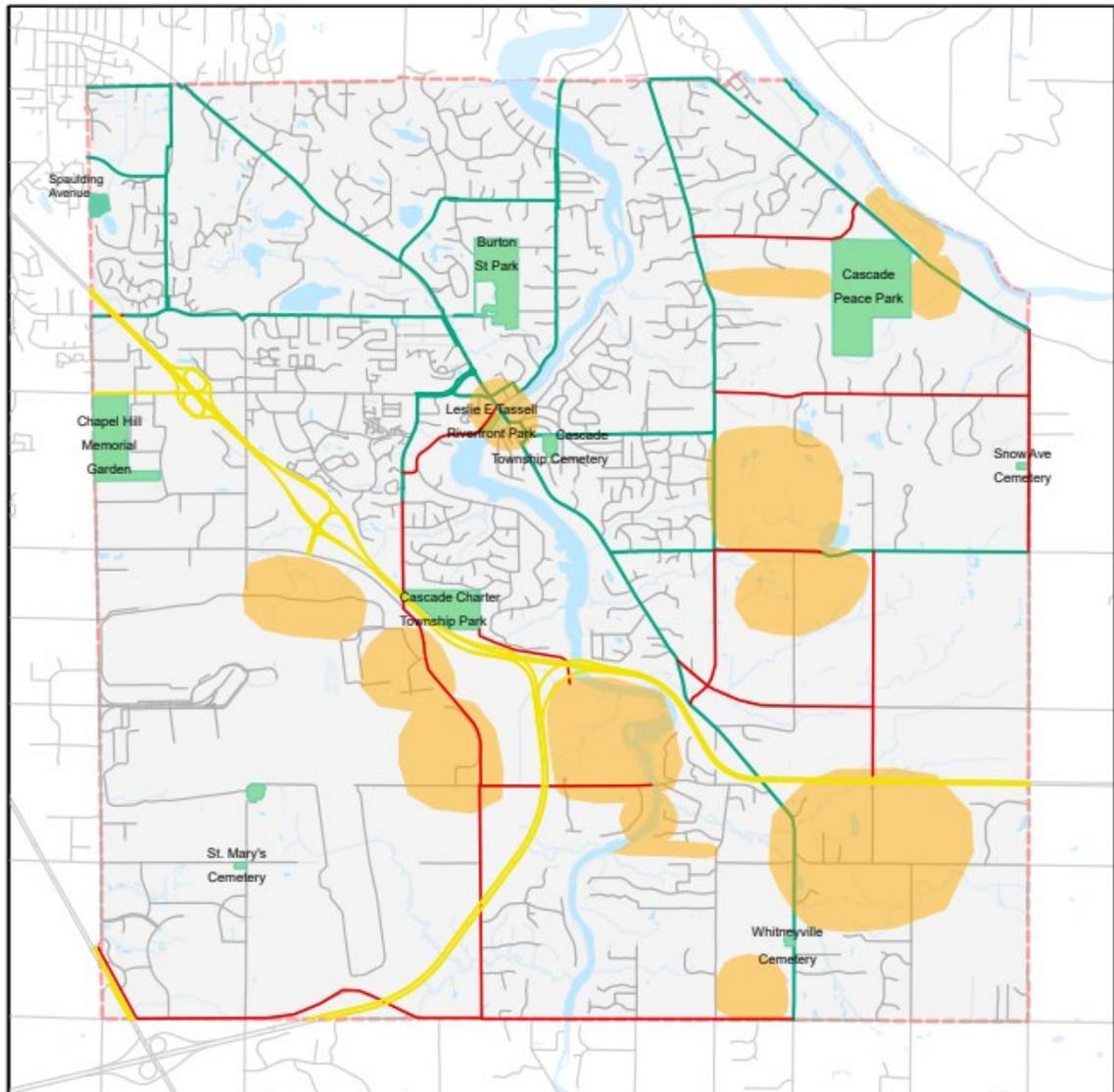
Currently, the terminal building and the curb are on a single level. The *GRR Airport Master Plan Update* considers terminal extension to two full levels, with the upper level for departures and an at-grade lower level for arrivals. This feature would allow more efficient traffic circulation and improve capacity at the terminal.

Alternative 5: Pedestrian/Bike Connectivity Enhancements

The 2019 *Airport Master Plan Update* included plans for sidewalks along 44th Street/Oostema Boulevard from Patterson Avenue to West Michigan Aviation Academy. New nonmotorized facilities are also planned along Patterson Avenue, Broadmoor Avenue (M-37), in the 52nd Street and Kraft Avenue corner of the Four Corners, and in the Davenport University area. *Cascade Township Strategic Plan 2022* also proposed trail extensions along 60th Street and 48th Street.



Non-motorized Facilities according to the 2019 Airport Master Plan Update



Future Parks Target Areas

Cascade Charter Township, Kent County, Michigan
September 14, 2022

LEGEND

- Proposed Trail Extensions
- Existing Non Motorized Trails
- Proposed Park Acquisition Areas
- Existing Parks - Modified selection



Data Source: Michigan Geographic Data Library 2022, Grand Valley Metropolitan Council REGIS 2022, McKenna 2022.

Proposed Trail and Park Extensions according to Cascade Township Strategic Plan 2022