

CLEVELAND AVENUE PROJECT SUMMARY OF ENGINEERING RECOMMENDATIONS

Cleveland Avenue Bicycle Lanes and Parking Mitigation Strategies

Report prepared: \$! +! \$" # († GbVSfW 3/7/2016

3/7/2016 Update: this document has been updated to remove "Parking Mitigation Strategy 5," proposing time-limited parking on the south side of Sargent Avenue during Saturdays.

PROJECT

Implementation of bicycle facilities and parking mitigation strategies on Cleveland Avenue from University Avenue to Highland Parkway.

Improvements to include the installation of dedicated bicycle lanes, pavement markings, signage, the installation of two half-block parking bays, changes to time-limited and permit parking, and other elements as described below.

PURPOSE

The purpose of this project is to provide an improved north-south bicycle facility on Cleveland Avenue, improving the bicycling environment as it relates to safety, accessibility, and connectivity.

I. INITIATING ACTION

On 6/17/2015, the Saint Paul City Council adopted Resolution PH 15-164, directing Saint Paul Public Works to propose a robust public engagement plan including a study and conversation of implementing bicycle facilities along the Cleveland Avenue corridor from I-94 to Randolph Avenue. On 8/12/2015, the City Council adopted Resolution RES15-1455 that further clarified the study area, approving a public process to create a neighborhood supported north-south bicycle route that runs from Randolph Avenue to University Avenue between Mississippi River Boulevard and Fairview Avenue.

The approved public engagement plan established a Community Working Group comprised of 14 community members representing diverse voices and viewpoints. The objective of the Community Working Group was to provide voices and input from the community resulting in a community and stakeholder driven recommendation for the Saint Paul Bicycle Plan that would maximize the benefit and minimize impact to the neighborhoods in which it is located. The Community Working Group met five times and hosted a public Open House to present information and receive feedback on identifying a north-south bicycle route within the study limits. On 11/9/2015, the working group concluded its work and voted 8-4 to recommend that Cleveland Avenue be the designated north-south bicycle route between Randolph and University. Following the recommendation of the Community Working Group, Saint Paul Public Works is proposing to partner with Ramsey County to implement bicycle facilities on Cleveland Avenue in 2016 from St. Anthony Avenue to Highland Parkway.

Additionally, Ramsey County is planning a mill and overlay of Cleveland Avenue between Summit Avenue and St. Anthony Avenue in 2016. The Saint Paul Bicycle Plan recommends “in-street separated lanes” on Cleveland Avenue within the project limits. To take advantage of the efficiencies associated with implementing bicycle facilities with existing maintenance projects, Saint Paul Public Works is proposing that Ramsey County implement bicycle lanes on Cleveland Avenue as a component of their scheduled mill and overlay project.

II. PROPOSED IMPROVEMENTS

Public Works is proposing to implement bicycles facilities on Cleveland Avenue between St. Anthony Avenue and Highland Parkway in 2016. Bicycle facilities on Cleveland between University Avenue and St. Anthony Avenue are proposed for implementation at a later date as a component of street resurfacing or reconstruction project.

Cleveland Avenue between University Avenue and Highland Parkway is classified as an urban minor arterial roadway and south of St. Anthony Avenue is a County State Aid Highway (CSAH-46). Within the project limits, the AADT on the roadway ranges from 4,150 to 12,200 vehicles per day, and 85th percentile speeds between 29 mph and 36 mph were recorded (2012, 2013 & 2014 data). The posted speed limit is 30 mph. The Saint Paul Bicycle Plan identifies this segment of Cleveland as a component of the planned bicycle network, and identifies “in-street separated lanes” as the recommended facility type. All travel lane, bicycle lane, and parking lane widths proposed meet State Aid standards. Improvements to lighting within the project limits are not proposed, though LED lighting upgrades on Cleveland Avenue between Summit and Marshall Avenues are scheduled for 2016 as part of a separate project. Additional improvements to lighting may be considered as a future CIB project proposal.

Cleveland Avenue - University to St. Anthony
(NOTE: Not recommend for implementation in 2016)

Jurisdiction: City of Saint Paul

Street Width Typical: 44'

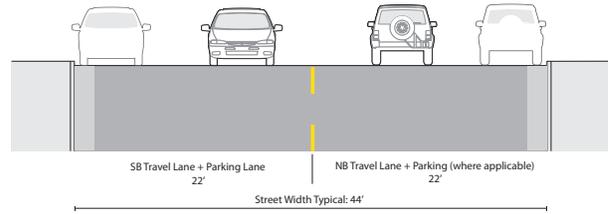
AADT: 6,400 – 7,475

85th Speeds: NB: 35 MPH, SB: 34 MPH

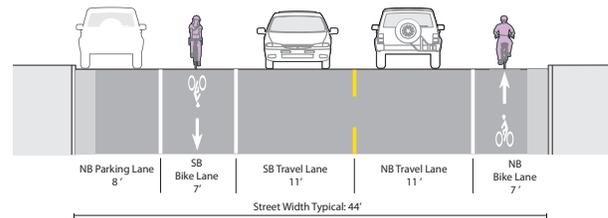
Elements proposed for implementation are:

- Restriping the roadway to add 5' - 7' bicycle lanes
- Narrowing of existing vehicular travel lanes to 11' – 12'
- Installation bicycle lane signage and pavement markings
- Northbound and southbound crossing treatments across the railroad track at Myrtle Avenue
- Removal of parking spaces on the west side of Cleveland between Myrtle and Gilbert Ave
- Parking Capacity would remain on the east side of Cleveland where available, and on the west side of Cleveland between Myrtle and University

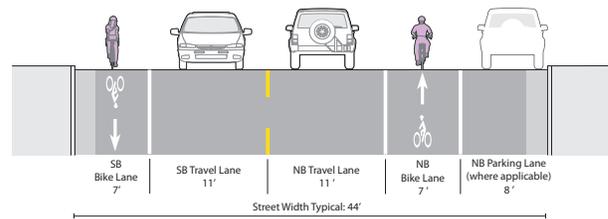
Cleveland: University to St. Anthony Existing



Cleveland: University to Myrtle With Bicycle Lanes



Cleveland: Myrtle to St. Anthony With Bicycle Lanes



Cleveland Avenue - St. Anthony to Selby

Jurisdiction: Ramsey County (CSAH-46)

Street Width Typical: 40'

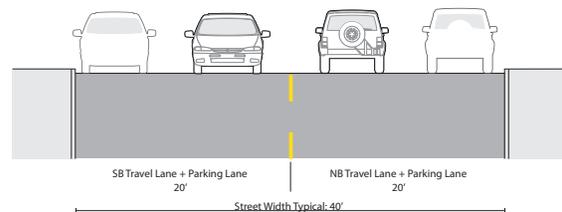
AADT: 4,150 – 10,500

85th Speeds: NB: 35 MPH, SB: 34 MPH

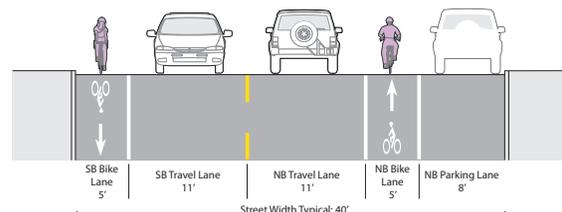
Elements proposed for implementation are:

- Restriping the roadway to add 5' bicycle lanes
- Narrowing of existing vehicular travel lanes to 11'
- Installation bicycle lane signage and pavement markings
- Removal of on-street parking on the west side of Cleveland between St. Anthony and Selby

Cleveland: St. Anthony to Selby Existing



Cleveland: St. Anthony to Selby With Bicycle Lanes



Cleveland Avenue - Selby to Summit

Jurisdiction: Ramsey County (CSAH-46)

Street Width Typical: 40'

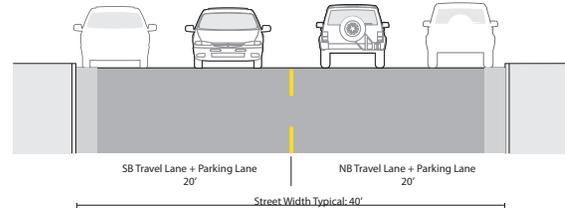
AADT: 9,200 – 10,200

85th Speeds: NB: 32 MPH, SB: 30 - 32 MPH

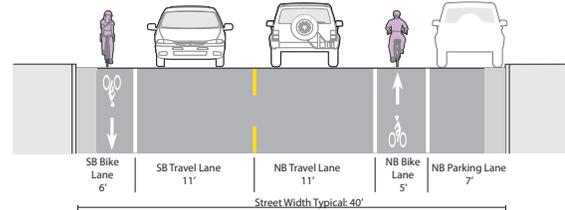
Elements proposed for implementation are:

- Restriping the roadway to add 5' northbound and 6' southbound bicycle lanes
- Narrowing of existing vehicular travel lanes to 11'
- Installation bicycle lane signage and pavement markings
- Removal of on-street parking on the west side of Cleveland between Selby and Summit

Cleveland: Selby to Summit Existing



Cleveland: Selby to Summit With Bicycle Lanes



Cleveland Avenue - Summit to Randolph

Jurisdiction: Ramsey County (CSAH-46)

Street Width Typical: 32'

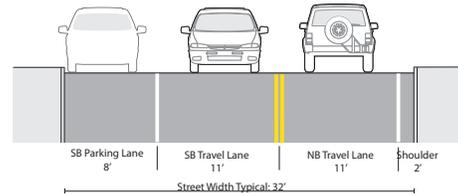
AADT: 8,800 – 9,900

85th Speeds: NB: 30 - 32 MPH, SB: 29 - 33 MPH

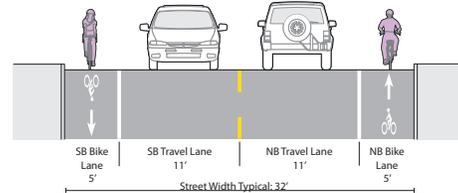
Elements proposed for implementation are:

- Restriping the roadway to add 5' bicycle lanes
- Maintaining existing 11' vehicular travel lanes
- Installation bicycle lane signage and pavement markings
- Removal of on-street parking on the west side of Cleveland between Grand and James Avenues, except for parking bays south of Grand and St. Clair Avenues
- Removal of on-street parking on the east side of Cleveland between James and Randolph Avenues
- Construction of a half-block parking bay on the west side of Cleveland Avenue from Palace Avenue south to the alleyway
- Construction of a half-block parking bay on the east side of Cleveland Avenue from the alleyway south to Randolph Avenue

Cleveland: Summit to Randolph Existing



Cleveland: Summit to Randolph With Bicycle Lanes



Cleveland Avenue - Randolph to Highland Pkwy

Jurisdiction: Ramsey County (CSAH-46)

Street Width Typical: 50'

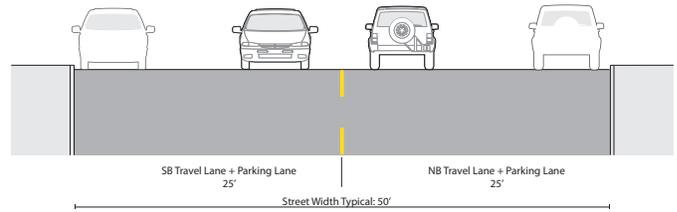
AADT: 12,200

85th Speeds: NB: 34 - 35 MPH, SB: 34 - 36 MPH

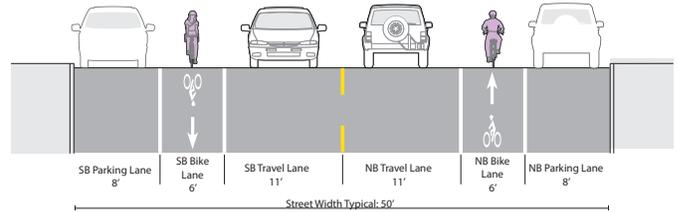
Elements proposed for implementation are:

- Restriping the roadway to add 6' bicycle lanes
- Narrowing of existing vehicular travel lanes to 11'
- Installation bicycle lane signage and pavement markings
- Installation of shared lane marking ("sharrows") between Eleanor Avenue and Highland Parkway
- No changes proposed to the existing parking configuration

Cleveland: Randolph to Eleanor Existing



Cleveland: Randolph to Eleanor With Bicycle Lanes



III. ALTERNATIVES

Implementing bicycle facilities between St. Anthony and University Avenues in 2016 was considered, but due to the poor existing pavement conditions and need for an off-street bicycle crossing treatment across the railroad track at Myrtle Avenue, Public Works is recommending that implementation be delayed and incorporated into a future roadway resurfacing or reconstruction on this segment of Cleveland.

The railroad track that intersects Cleveland at Myrtle Avenue precludes a bikeway angle of approach of 60° or greater within the curb-to-curb limits. To maintain a crossing angle of 60° or greater at this location, an off-street crossing treatment is required on the east side of the roadway, and reconstruction of the existing bumpout is required on the west side of the roadway. Construction of this treatment is estimated at \$80,000. A design concept of this crossing treatment is presented for review in **Appendix C** attached to this document.

Parking removal is proposed for the west side of Cleveland Avenue between Myrtle Avenue and Summit Avenue. Removing parking from the east side of Cleveland instead of the west side was examined, but was ultimately rejected as there are more impacts to permit parking areas and more local businesses located on the east side of the roadway.

IV. POSITIVE BENEFITS

The Saint Paul Bicycle Plan recommends “in-street separated bicycle lanes” on Cleveland Avenue within the project limits. The project as proposed promotes multi-modal utilization of the roadway, providing a dedicated space for people using bicycles along Cleveland Avenue while allowing for important connections to the University of St. Thomas, St. Catherine University, Highland Village, and business nodes at Marshall, Grand, St. Clair, and Randolph Avenues. As a contiguous corridor from Shepard Road to Transfer Road, Cleveland Avenue is a critical north-south connection to many of Saint Paul’s largest trip generators, and connects to some of the most utilized bikeways in the city. Modifying existing parking restrictions and constructing two half-block parking bays will help mitigate the reduction of on-street parking capacity. When paired with existing and planned bicycle infrastructure, the improvements proposed begin to establish the foundation for a complete and connected bikeway system, and allow for bicycling to exist as a practical and feasible means of transportation in Saint Paul.

The posted speed limit on Cleveland Avenue is 30 MPH. Speed studies recorded 85th percentile speeds between 30 and 35 mph within the project limits. Narrowing vehicular travel lane widths as proposed will encourage slower speeds, fostering a safer and more accessible roadway for all users. Implementing bicycle lanes will provide people with a dedicated space to bike on the roadway and will encourage more predictable riding behavior. With AADT ranging from 4,150 to 12,200, implementing in-street separated lanes to separate bicycle and vehicular traffic will substantially increase the safety of people bicycling on Cleveland Avenue.

V. ADVERSE EFFECTS

Normal issues relative to implementing infrastructure improvement projects will be present. Those issues include, but may not be necessarily limited to, noise, dust, and general disruptions to vehicular traffic.

To accommodate the installation of dedicated bicycle lanes, existing on-street parking must be removed on the west side of Cleveland Avenue between Myrtle Avenue and James Avenue, except for parking bays south of Grand and St. Clair Avenues. Parking must also be removed on the east side of Cleveland between James and Randolph Avenues. The removal of parking lanes is required to meet minimum state aid standards for bicycle and travel lane widths.

To capture demonstrative parking demand, Public works conducted parking occupancy counts at representative time periods along Cleveland Avenue (weekday early morning, midday, evening, and Saturday midday and evening). The parking occupancy data is presented for review in **Appendix B** attached to this document.

Existing legal parking capacity on Cleveland between University Avenue and St. Anthony Avenue is estimated at 26 spaces, and capacity following the implementation of bicycle lanes is estimated at 12 – 16 spaces. The highest observed parking utilization measured 10-parked vehicles (weekday midday, 11 am - 1 pm), with a mean parking utilization of 4.7 vehicles across all counting periods.

Existing legal parking capacity on Cleveland between St. Anthony Avenue and Summit Avenue is estimated at 230 spaces, and capacity following the implementation of bicycle lanes is estimated at 115 - 120 spaces. The highest observed parking utilization measured 128-parked vehicles (weekday midday, 11 am - 1 pm), with a mean parking utilization of 104.5 vehicles across all counting periods.

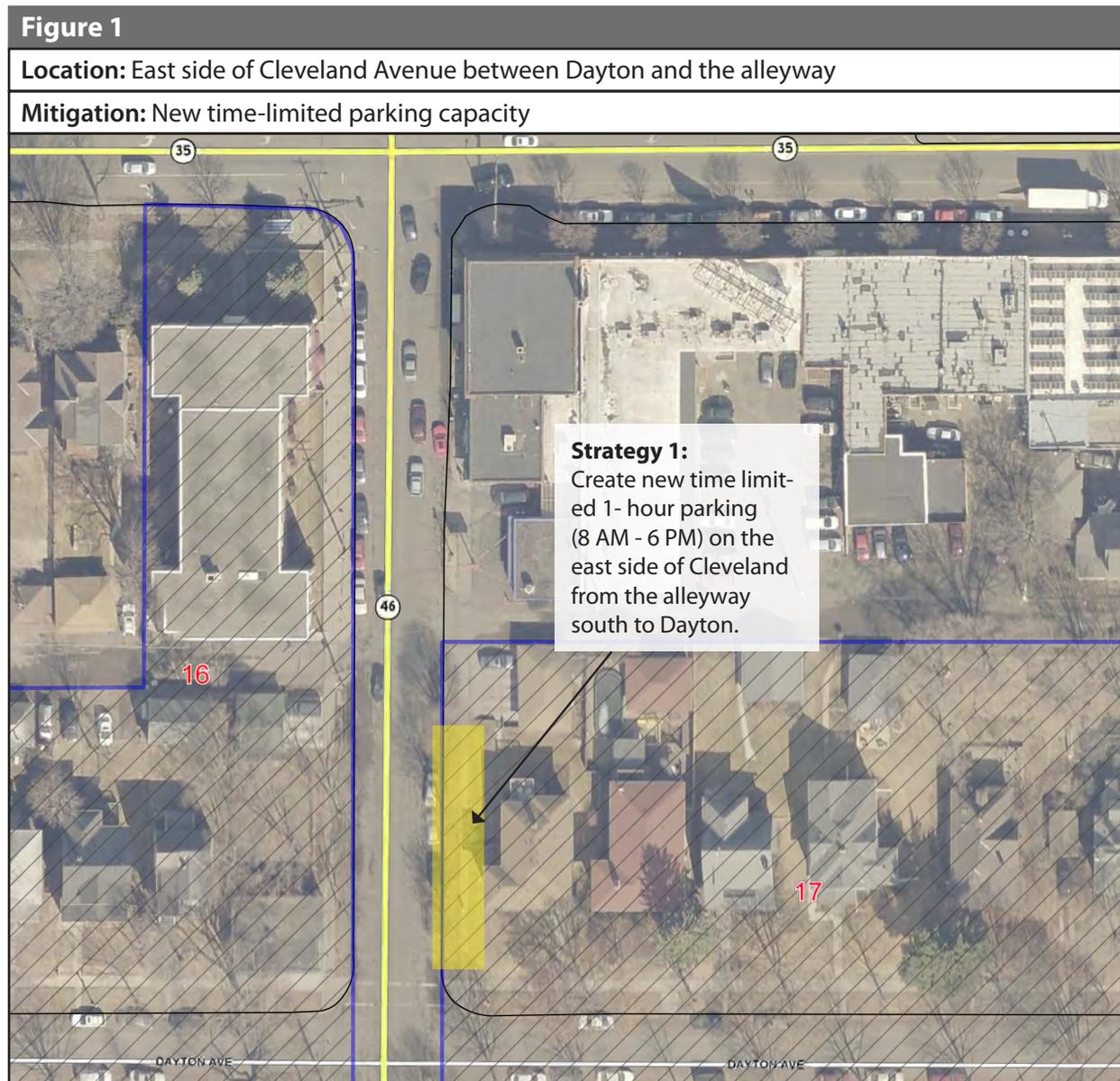
Existing legal parking capacity on Cleveland between Randolph Avenue and Summit Avenue is estimated at 134 spaces, and capacity following the implementation of bicycle lanes is estimated to be 15 spaces. The highest observed parking utilization measured 52-parked vehicles (weekday midday, 11 am - 1 pm), with a mean parking utilization of 36.4 vehicles across all counting periods.

VI. PARKING MITIGATION STRATEGIES

The plan as proposed for bicycle facilities on Cleveland Avenue will impact parking availability between University Avenue and Randolph Avenue. The following parking strategies are proposed to help mitigate the impact of on-street parking removal on Cleveland Avenue:

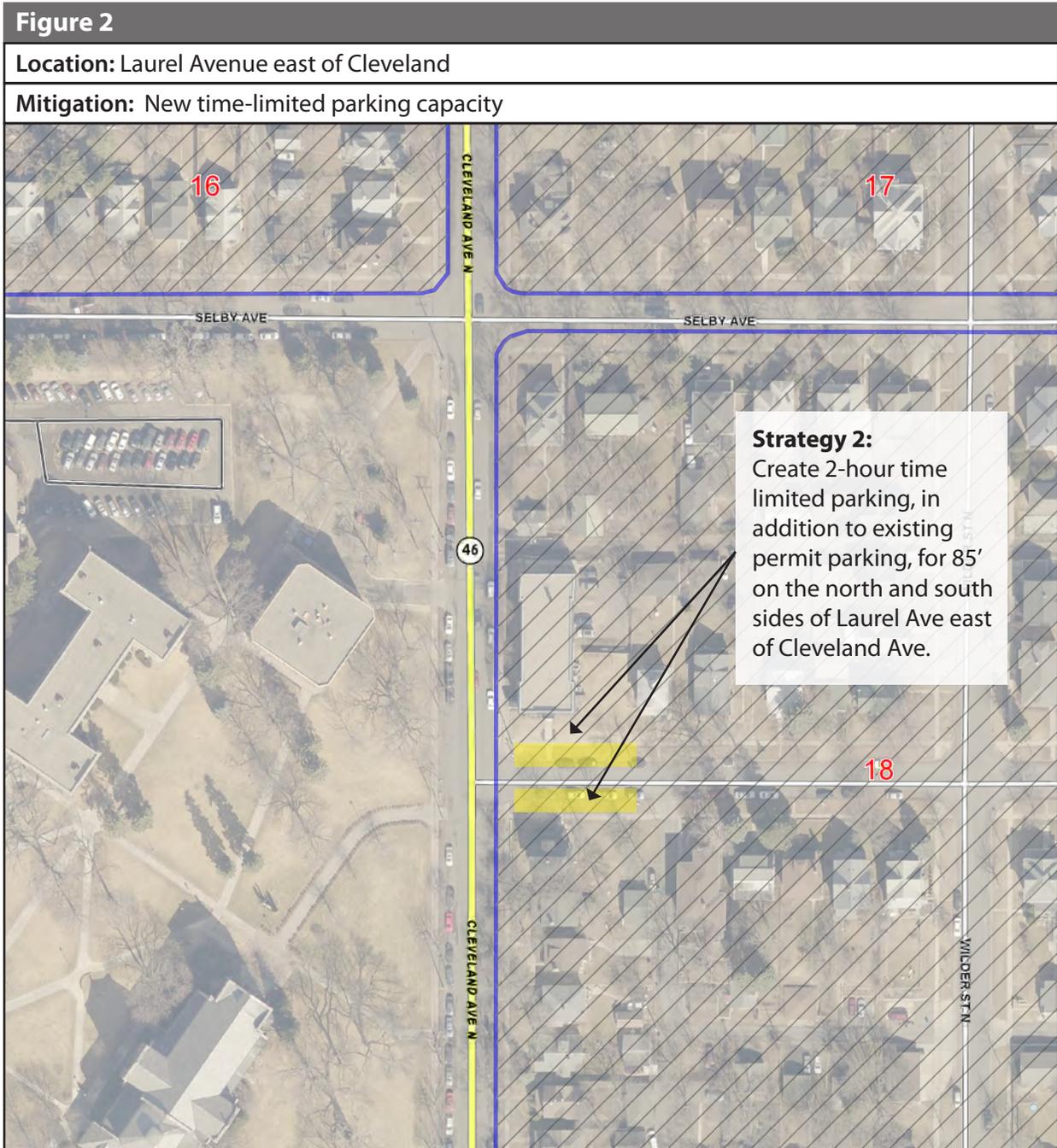
Strategy 1: Implement time-limited parking on the east side of Cleveland between Dayton and the alleyway.

- Creating time-limited parking (1-hour, 8 AM – 6 PM) for the half-block on the east side of Cleveland between Dayton and the alleyway will replace some of the time-limited parking lost on the west side of the roadway to accommodate bicycle lanes. To accommodate the nearby businesses on Cleveland and Marshall Avenues, this parking is not proposed to be amended into permit parking area 17.



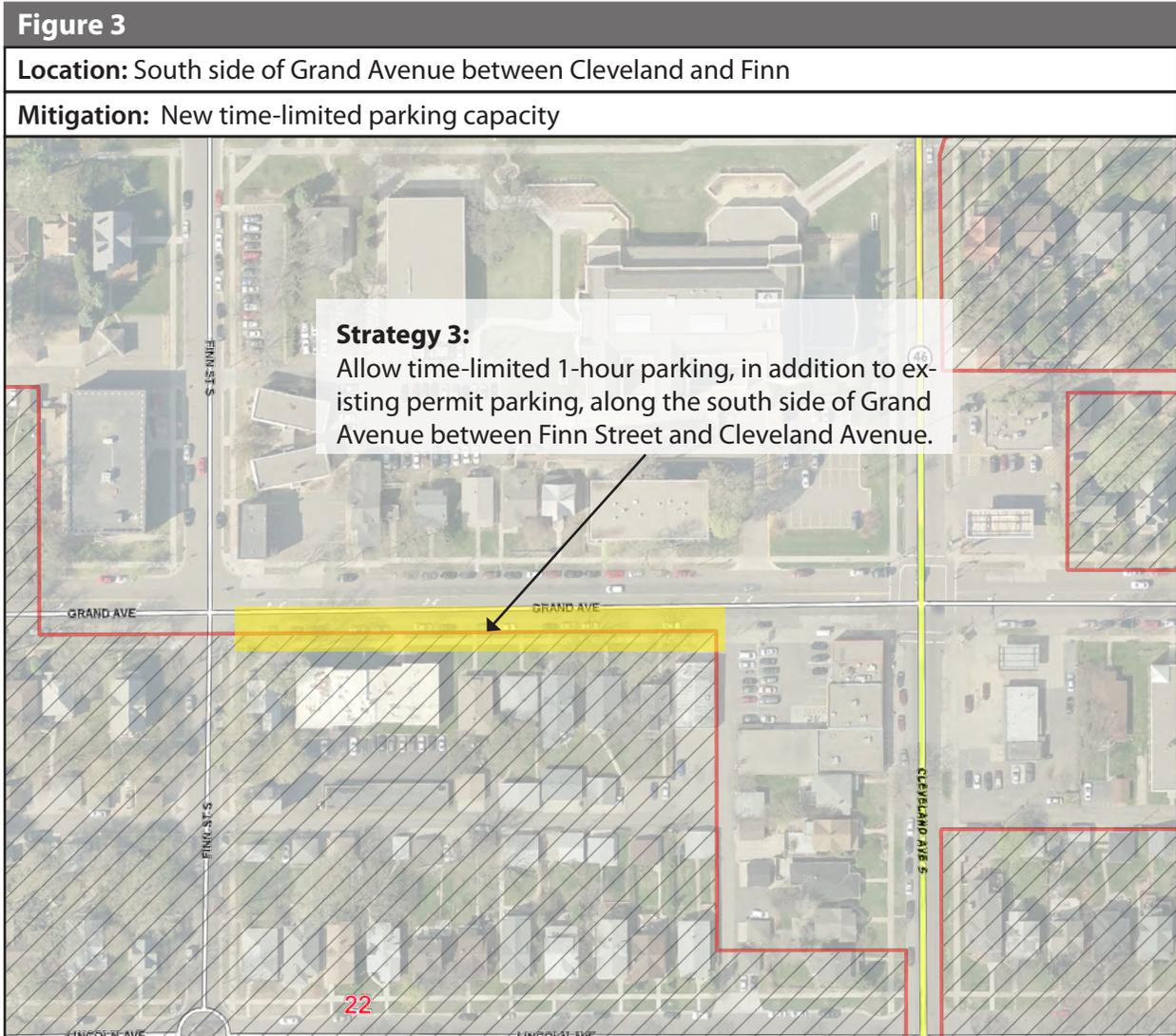
Strategy 2: Allow time-limited parking (2-hour, 8 AM – 8 PM), in addition to existing permit parking, on the north and south sides of Laurel Avenue extending for 85’ east of Cleveland Avenue.

- Allowing time-limited parking (2-hour, 8 AM – 8 PM) on the north and south sides of Laurel Avenue from Cleveland Avenue to 85’ east will allow for increased parking options for patrons of the 128 Café on Cleveland. As the time-limited parking is located in a parking permit area, however, enforcement will likely be challenging in the absence of metered parking.



Strategy 3: Allow time-limited parking (1-hour, 8 AM – 6 PM), in addition to existing permit parking, along the south side of Grand Avenue between Finn Street and Cleveland Avenue.

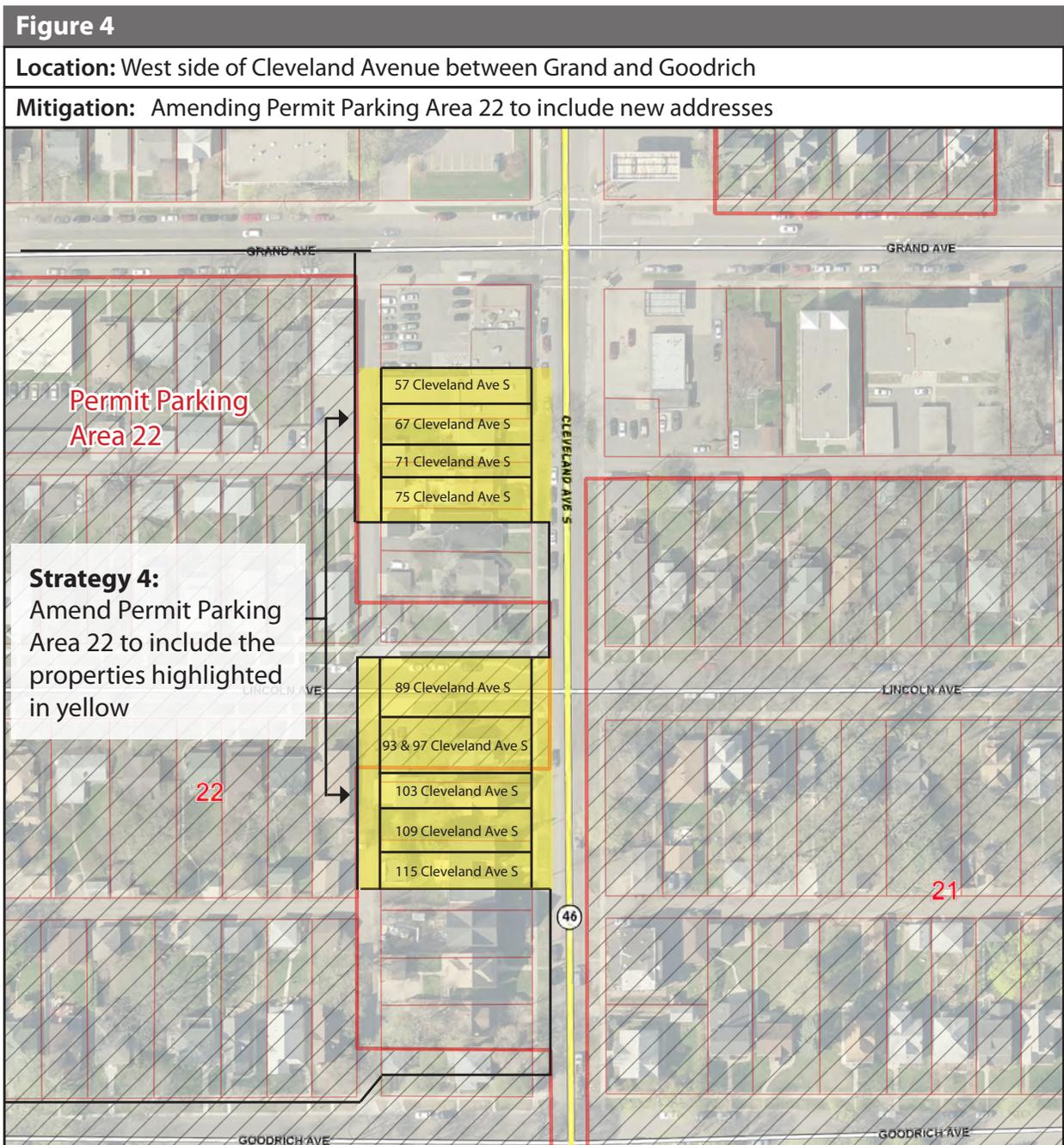
- Allowing time-limited parking (1-hour, 8 AM – 6 PM) on the south side of Grand Avenue between Finn and Cleveland will allow for increased parking options for patrons of businesses near Cleveland and Grand Avenues. As the time-limited parking is located in a parking permit area, however, enforcement will likely be challenging in the absence of metered parking.



Strategy 4: Amend Permit Parking Area 22 to include the following Cleveland Avenue addresses:

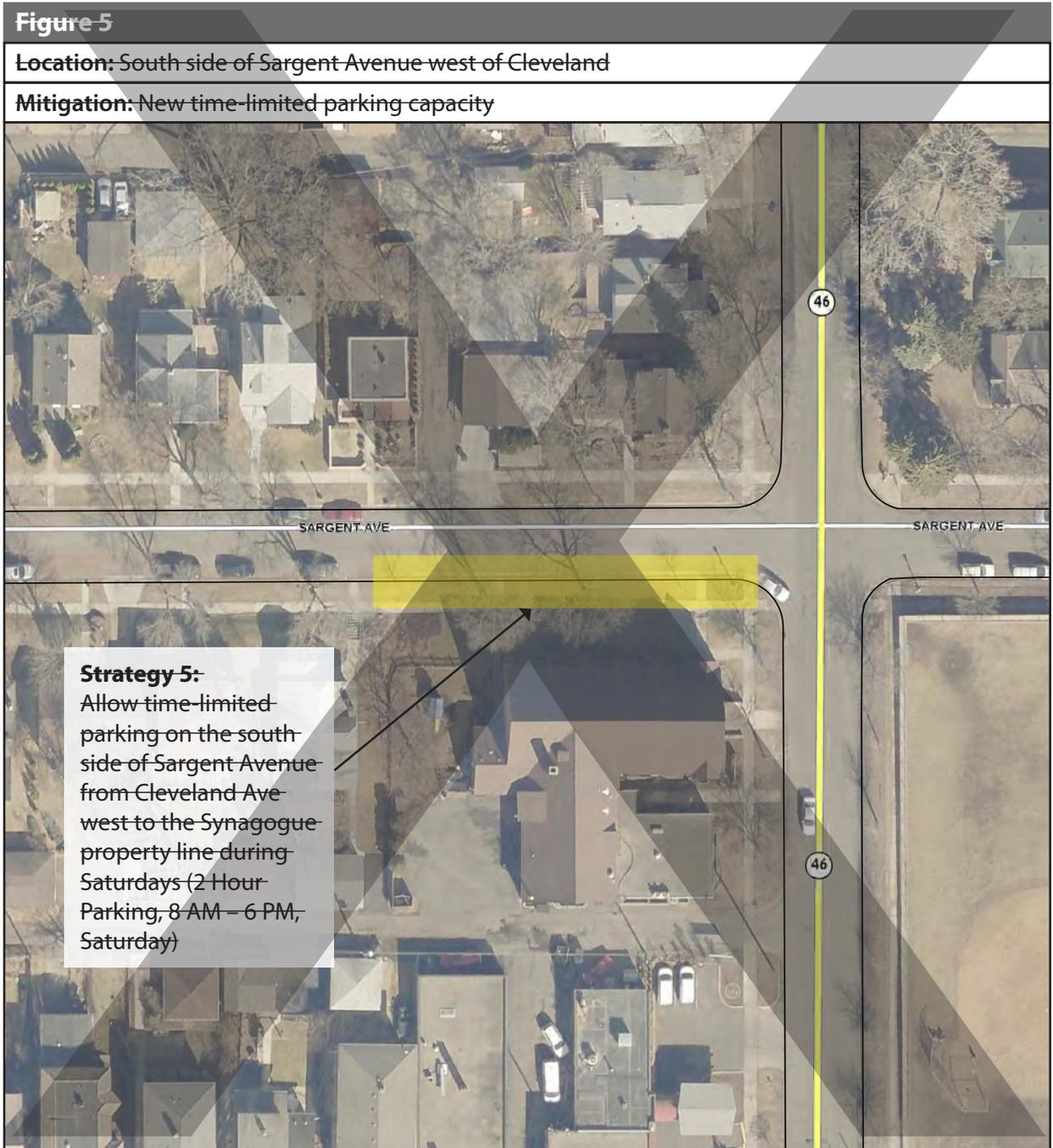
- 57 Cleveland Avenue S
- 67 Cleveland Avenue S
- 71 Cleveland Avenue S
- 75 Cleveland Avenue S
- 89 Cleveland Avenue S
- 93 Cleveland Avenue S
- 97 Cleveland Avenue S
- 103 Cleveland Avenue S
- 109 Cleveland Avenue S
- 115 Cleveland Avenue S

- The addresses listed above front Cleveland Avenue but are not included in the neighboring permit parking areas. To facilitate improved on-street parking accessibility for these addresses, amending Permit Parking Area 22 to include these addresses is proposed.



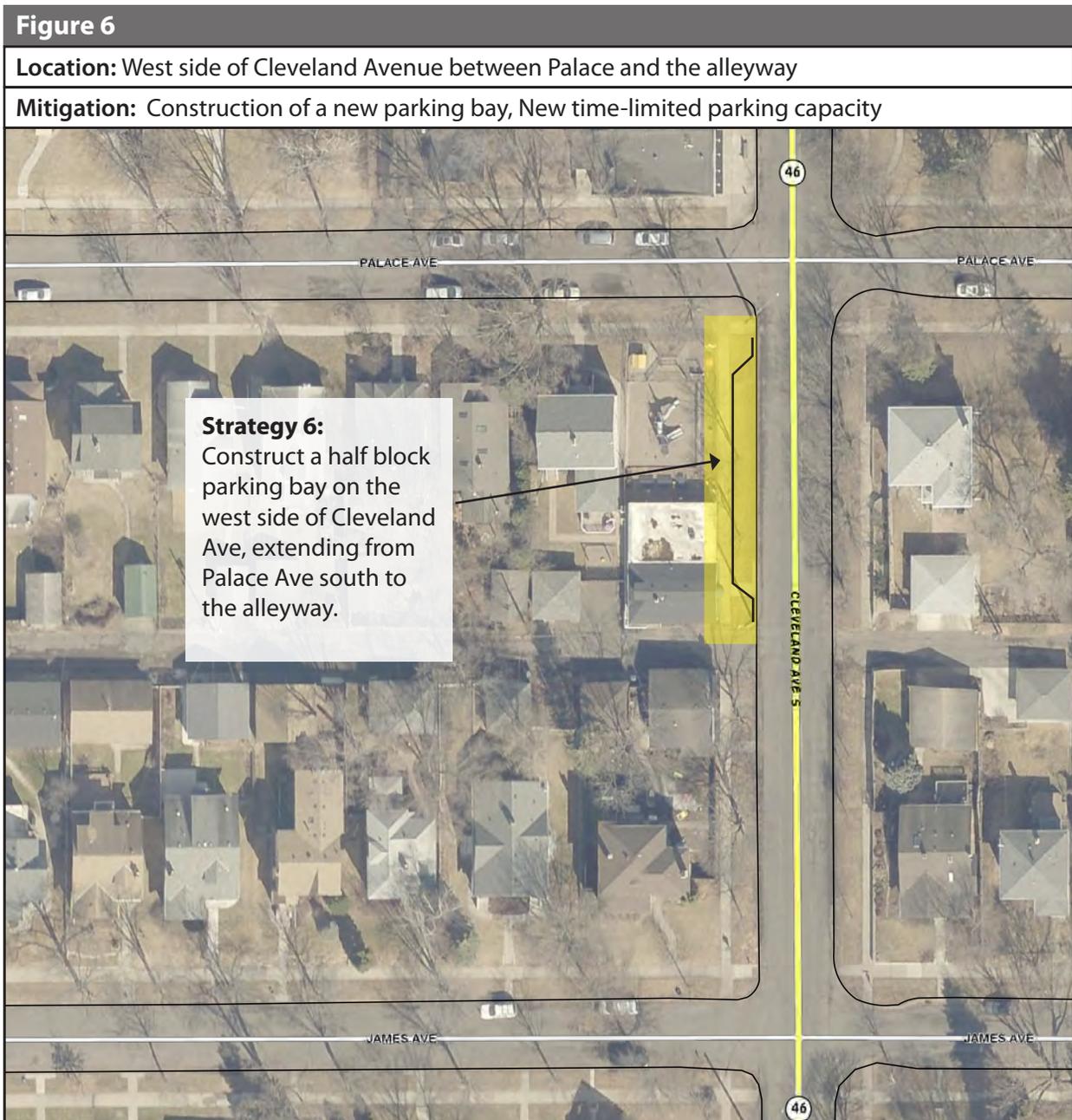
Strategy 5 to allow time limited parking on the south side of Sargent Avenue is no longer being pursued.

Strategy 5: Allow time-limited parking on the south side of Sargent Avenue from Cleveland Ave west to the Synagogue property line during Saturdays (2 Hour Parking, 8 AM – 6 PM, Saturday):



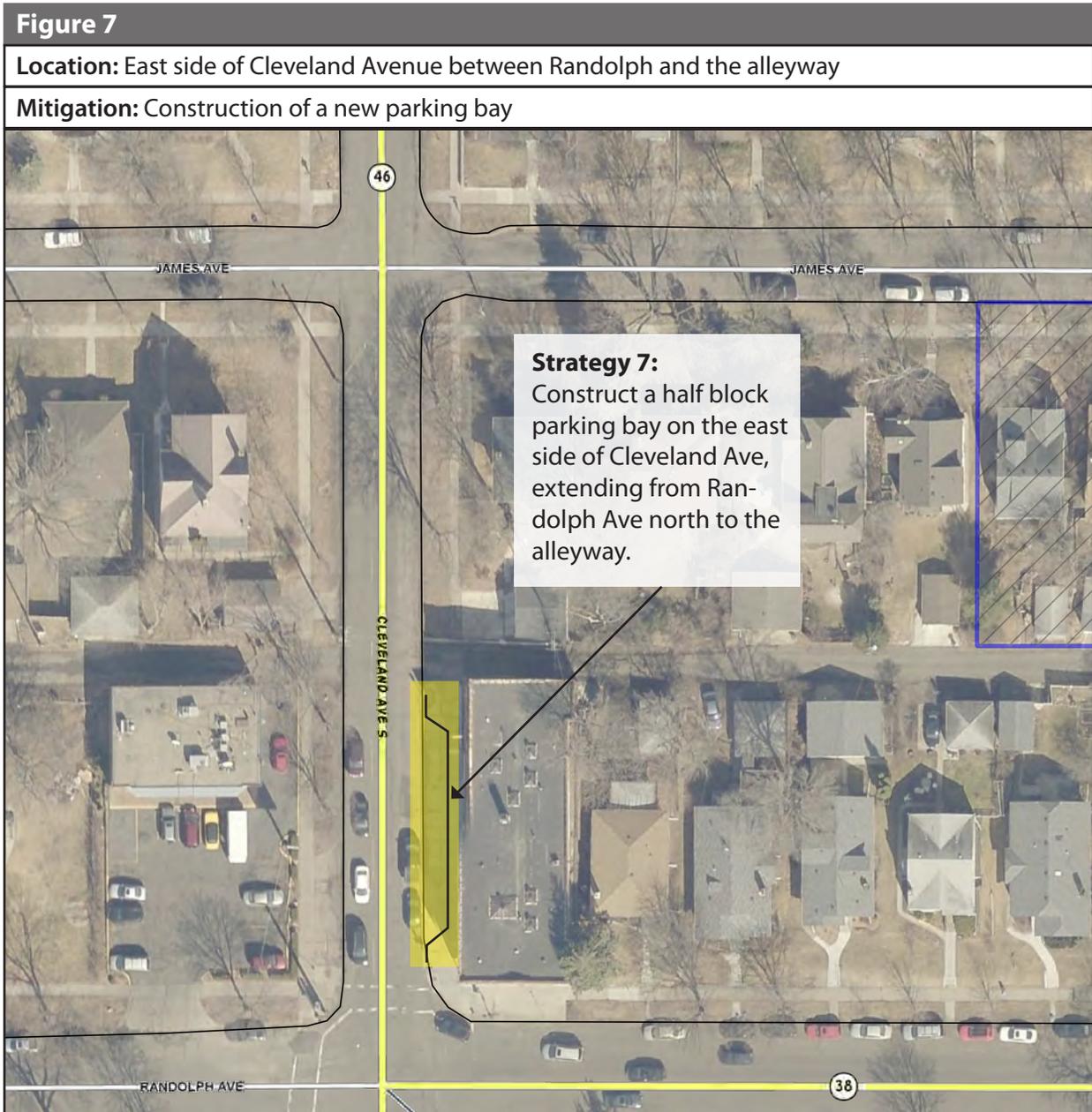
Strategy 6: Construct a half-block parking bay on the west side of Cleveland Ave, extending from Palace Ave south to the alleyway.

- Construction of a parking bay will allow for improved proximate parking capacity near the businesses fronting Cleveland Avenue near Palace and James Avenues. All parking capacity within the parking bay should be time-limited to accommodate the nearby businesses (1 Hour Parking, 8 AM – 6 PM). Per City code, the City traffic engineer may revise the posted time-limited parking, allowing for future modifications if necessary. Construction of the parking bay will necessitate the removal of most of the boulevard and trees between Palace and the alleyway on the west side of Cleveland Ave. Impacted trees include two Norway Maples and one Honeylocust.



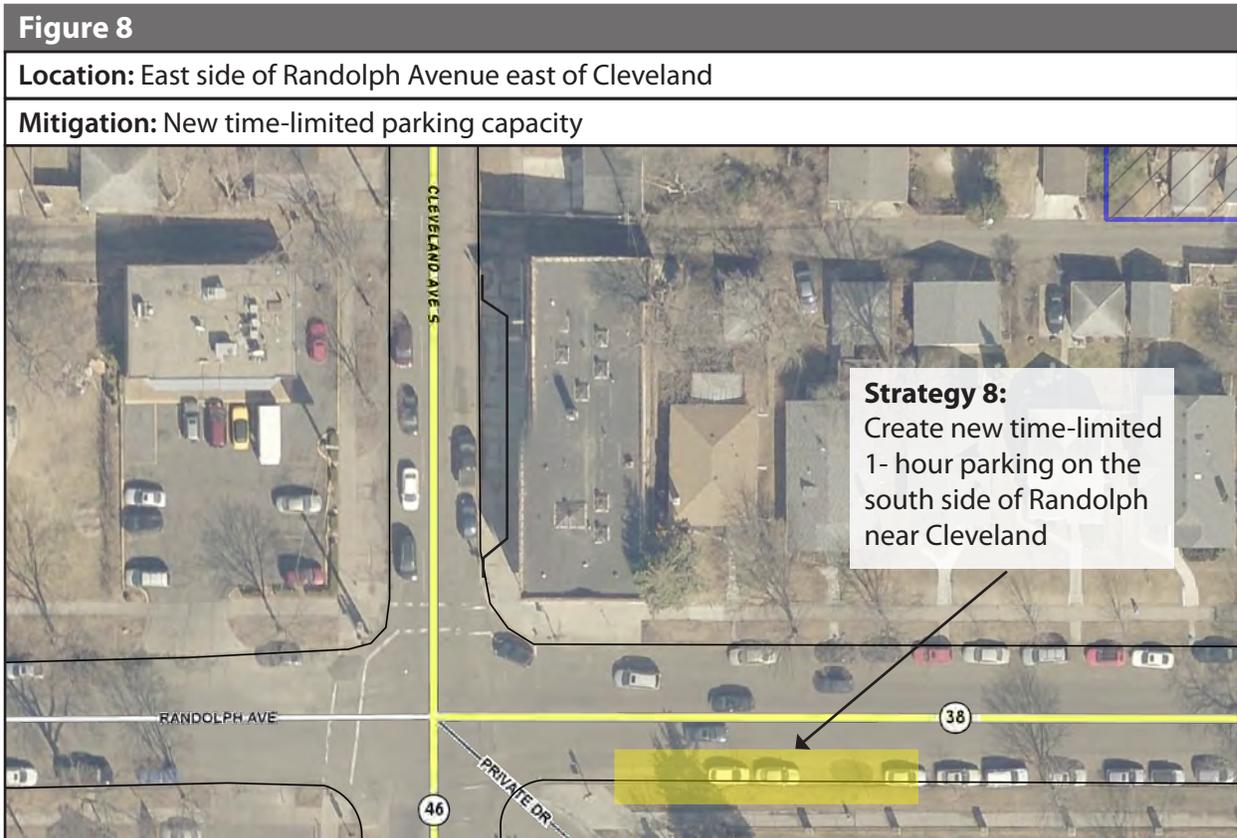
Strategy 7: Construct a half-block parking bay on the east side of Cleveland between Randolph and James.

- Construction of a parking bay will allow for improved proximate parking capacity near the businesses located at 474 Cleveland Avenue S, and maintain the existing time-limited parking capacity on the east side of Cleveland between Randolph Avenue and the alleyway (1 Hour, 8 AM – 6 PM). Per City code, the City traffic engineer may revise the posted time-limited parking, allowing for future modifications if necessary. Construction of the parking bay will not impact existing trees, but will narrow the existing sidewalk width between Randolph Avenue and the alley.



Strategy 8: Created new time-limited parking capacity on the south side of Randolph Avenue east of Cleveland Avenue.

- Expanding time-limited parking capacity (1-hour 8 AM – 6 PM) on the south side of Randolph Avenue for 85’ east of Cleveland Avenue will provide additional proximate parking opportunity for patrons of businesses near the intersection. Time-limited parking could be expanded further east of the area identified in Figure 8 should parking demand warrant additional time-limited capacity.



VII. TIME SCHEDULE

It is anticipated that the bicycle improvements and parking mitigation strategies as proposed will be installed in 2016.

Implementation of bicycle facilities on Cleveland Avenue between St. Anthony and University Avenues is proposed as a component of a future street resurfacing or reconstruction, and is not proposed for construction in 2016.

VIII. COST ESTIMATE AND FINANCING

Implementation of bicycle lanes and lane reconfiguration within the limits of Ramsey County's mill and overlay will incur little additional cost beyond the amount already budgeted by the County for resurfacing. Implementation of bicycle facilities outside of the mill and overlay limits will be funded using the City of Saint Paul's 8 to 80 Vitality fund. A funding source has not been identified for construction of bicycle facilities north of Saint Anthony Avenue. Construction of the proposed parking bays will be financed through a 2016 budget line item identified by City Council. Implementing a parking bay or similar treatment is typically beyond the scope of a bikeway striping or resurfacing project.

Implementing bicycle facilities and parking mitigation strategies within the project limits on Cleveland Avenue is estimated as follows:

Table 1: Highland Parkway to St. Anthony Avenue Bicycle Lanes Cost Estimate (Planned Implementation: 2016)

Project Segment	Length (Miles)	Item	Cost	Funding
St. Anthony to Summit	0.86	Signing/Marking	\$0*	Ramsey County
Summit to Randolph	0.98	Signing/Marking	\$47,500	8-80 Vitality Fund
		Parking Bays	\$200,000	2016 Budget Line Item
Randolph to Highland	0.50	Signing/Marking	\$19,000	8-80 Vitality Fund
Total	2.34		\$266,500	

* Implementation of bicycle lanes and lane reconfiguration within the limits of Ramsey County's 2016 mill and overlay on Cleveland Avenue will incur little additional cost beyond the amount already budgeted by the County for resurfacing.

Table 2: St. Anthony Avenue to University Avenue Cost Estimate (Planned Implementation: Undetermined)

Project Segment	Length (Miles)	Item	Cost	Funding
University to St. Anthony	0.42	Signing/Marking	\$15,500	Not Funded
		RR Crossing Revisions	\$80,000	Not Funded
Total	0.42		\$95,500	

IX. SOURCE OF ADDITIONAL INFORMATION

For additional information, please contact:

Luke Hanson, Capital and Transportation Planning
Email: luke.hanson@ci.stpaul.mn.us

X. SUMMARY AND RECOMMENDATIONS

The Department of Public Works believes the project submitted herein to be necessary and feasible. The Department's Engineering Recommendation is for approval of the project.

APPENDIX

- a. Project Map – Existing and Proposed Parking Conditions**
- b. Parking Survey Data (University Avenue to Randolph Avenue)**
- c. Cleveland at Myrtle Railroad Crossing Concept**