





Hamilton

INFORMATION REPORT

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	December 2, 2024
SUBJECT/REPORT NO:	Feasibility and Costs to Construct a Multi-Use Trail on the South Side of Mud Street (PED24224/PW24079) (Ward 9)
WARD(S) AFFECTED:	Ward 9
PREPARED BY:	Danny Pimentel (905) 546-2424 Ext. 4581
SUBMITTED BY:	Brian Hollingworth Director, Transportation Planning and Parking Planning and Economic Development Department
SIGNATURE:	
SUBMITTED BY:	Carolyn Ryall Director, Transportation Public Works Department
SIGNATURE:	

COUNCIL DIRECTION

At the, August 16, 2023, Public Works Committee, the following motion was presented and passed:

- (a) That staff be directed to assess the feasibility and costs to construct a multi-use trail on the south side of Mud Street that would directly connect Paramount Drive to Winterberry Drive and report back to the Public Works Committee in Q4 2023;
- (b) That the estimated costs for the project to construct a multi-use trail on the south side of Mud Street connecting Paramount Drive to Winterberry Drive be referred to the 2025 Capital Budget for consideration.

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INFORMATION

Staff commenced a feasibility assessment of a Multi-use Path on the South side of Mud Street in Fall 2023. Through the initial assessment and site visits, two additional alternatives were identified including a north-side option, and neighbourhood community connector option. As a result of the inclusion of new options, as well as some additional effort that was required to ascertain the feasibility and costs of each option, the timelines of the original motion could not be met. However, the additional time taken has resulted in a more informed review as presented in this Report. It is also noted that funding for the path was not put forward during the 2024 budget process. Budget submissions and project timing will be informed by direction following from the consideration of this Report by Public Works Committee.

Mud Street is classified as a Major Arterial within Schedule C of the Urban Official Plan, with a rural cross-section that includes a gravel shoulder and ditch. Mud Street is a four-lane roadway with a posted speed limit of 70 km/h and is a full-time truck route within the City of Hamilton’s Truck Route Master Plan. There are no existing streetlights present on Mud Street, along with no sidewalks and/or bicycle lanes. The City of Hamilton Cycling Master Plan and Recreational Trails Master Plan does not include Mud Street for consideration of cycling facilities.

In April 2021, traffic data was collected on Mud Street between Paramount Drive and Winterberry Drive. The table below summarizes the data collected. It should be noted that the traffic study was conducted during the COVID-19 pandemic but are considered acceptable to inform the feasibility assessment.

Table 1.0: Mud Street Traffic Data Summary

Mid-Block Location	Direction	Average Daily Traffic	Truck Percentage (%)	Average Speed (km/h)	85th Percentile Speed*
Paramount Drive and Winterberry Drive	Westbound	10,712	6	75	88
	Eastbound	9,321	6	81	94

*The 85th percentile speed is the speed at which 85% of motor vehicles travel at or below.

Given the traffic volumes and operating speeds on Mud Street, it is recommended that any facility for pedestrians and/or cyclists be separated from the roadway. A multi-use path would be an appropriate facility type.

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○ Multi-Use Pathway Analysis and Cost

In addition to assessing the feasibility and costs of implementing a multi-use path on the south side, staff also assessed two additional options for consideration:

- **Option 1 - Mud Street South Side Multi-Use Path**
- **Option 2 - Mud Street North Side Multi-Use Path**
- **Option 3 - Neighbourhood Community Connection**

In assessing the feasibility and costs of each option, a number of financial assumptions were identified in an effort to evaluate each option equally. Additionally, unassumed costs have been identified but not monetized given that further design work is required to accurately quantify. These assumptions and unassumed costs included:

Financial Cost Assumptions:

- \$750 per linear metre - 3.0 metre asphalt multi-use path construction;
- \$1,500 per tree – spaced every 10 metres;
- \$8,000 per streetlight – spaced every 50 metres; and,
- \$30,000 per signal modification.

Unassumed Costs:

- Ditch and/or swale relocation;
- Culvert relocation;
- Backfill quantities (locations where grading is challenging);
- Forestry requirements (if removing trees and/or other vegetation);
- Stormwater management remedies;
- Pedestrian railings;
- Retaining wall requirements (both implementation and removal);
- Utility Relocation; and,
- Transit Integration.

Option 1 - Mud Street South Side Multi-Use Path (Appendix “A”)

Appendix “A” attached to Report PED24224/PW24079 provides a conceptual plan on the location of the asphalt multi-use path on the south side of Mud Street. It would be considered approximately ten metres away from the edge of the existing roadway and one to two metres away from the existing sound barrier wall. With the volume, speed and type of traffic along Mud Street, repurposing the existing gravel shoulder to an asphalt multi-use path was not considered as it would impede on the clear zone of the roadway and not considered safe for vulnerable road users due to volumes and speeds.

Based on an initial review, a multi-use path on the south side of Mud Street is feasible.

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Table 2.0: - Option 1 Estimated Costs

Item	Unit Cost	Length or Quantity	Total Item Cost
3.0 metre Asphalt Multi-Use Path	\$750 Per linear metre	840 metres	\$630,000
Addition of Trees	\$1,500 per tree	84	\$126,000
Addition of Streetlights	\$8,000 per streetlight	17	\$136,000
Signal Modification	\$30,000 per intersection	2	\$60,000
TOTAL ESTIMATED COST			\$952,000

Option 2 - Mud Street North Side Multi-Use Path (Appendix “B”)

Appendix “B” attached to Report PED24224/PW24079, provides a conceptual plan on the location of the asphalt multi-use path on the north side of Mud Street. It would be considered approximately ten metres away from the edge of the existing roadway and approximately four metres away from the existing fence line of the residential community. Similar to Option 1, repurposing the existing gravel shoulder to an asphalt multi-use path was not considered as it would impede on the clear zone of the roadway and not considered safe for vulnerable road users due to volumes and speeds.

Based on an initial review, a multi-use path on the north side of Mud Street is feasible.

Table 3.0: - Option 2 Estimated Costs

Item	Unit Cost	Length or Quantity	Total Item Cost
3.0 metre Asphalt Multi-Use Path	\$750 Per linear metre	860 metres	\$645,000
Addition of Trees	\$1,500 per tree	86	\$129,000
Addition of Streetlights	\$8,000 per streetlight	17	\$136,000
Signal Modification	\$30,000 per intersection	2	\$60,000
TOTAL ESTIMATED COST			\$970,000

Option 3 – Neighbourhood Community Connection (Appendix “C”)

Appendix “C” attached to Report PED24224/PW24079, provides a conceptual plan on the proposed alignment and connections to and from Mud Street and adjacent commercial, residential, and recreational land uses.

This option would include:

- Winterberry Drive from Artfrank Drive to a point 125 metres north
 - Remove existing 1.5 metre sidewalk and replace with a 3.0 metre multi-use path;
- Path connection from Winterberry Drive to Hopewell Crescent
 - Remove existing 1.5 metre sidewalk and replace with a 3.0 metre multi-use path;
- Path connection between Chilton Drive and Paramount Drive
 - Remove existing 1.5 metre sidewalk and replace with a 3.0 metre multi-use path;
- Hopewell Crescent and Chilton Drive – Bicycle Boulevard
 - Pavement markings and wayfinding signage for cyclists, sharing the roadway with other vehicles; and,
- Signal modifications at Winterberry Drive and Artfrank Drive.

In addition to the proposed community connection, Public Works, Transportation has identified and are planning additional crossing treatment enhancements for Paramount Drive between Winterberry Drive and Mud Street, outside of this option.

It should also be noted that, for Option 3, a number of the unassumed costs would not be applicable as Winterberry Drive does not have the same grade challenges and/or roadway function, cross-section of Mud Street or degree of safety concerns for vulnerable road users. Table 6.0 provides an overall comparison of how each unassumed cost would apply to each option.

Based on an initial review, the option of creating a neighbourhood community connection is feasible and would provide a similar level of connectivity as a multi-use path on Mud Street.

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Table 4.0: - Option 3 Estimated Costs

Item	Unit Cost	Length or Quantity	Total Item Cost
3.0 metre Asphalt Multi-Use Path	\$750 Per linear metre	250 metres	\$187,500
Addition of Streetlights (for path connections)	\$8,000 per streetlight	4	\$32,000
Signal Modification	\$30,000 per intersection	1	\$30,000
Bicycle Boulevard	\$80 Per linear metre	800	\$64,000
TOTAL ESTIMATED COST			\$313,500

Table 5.0 - Overall Cost Summary Comparison

Option	Description	Total Estimated Costs
1	South Side Multi-Use Path	\$952,000
2	North Side Multi-Use Path	\$970,000
3	Neighbourhood Community Connection	\$313,500

Table 6.0 – Unassumed Cost Comparison

Item	Option 1	Option 2	Option 3
Ditch and/or swale Relocation	X	X	
Culvert Relocation	X	X	
Backfill Quantities	X	X	X
Forestry Requirements	X	X	X
Stormwater Management	X	X	
Pedestrian Railings	X	X	
Retaining Walls	X	X	
Transit Integration			X
Utility Relocation			X

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APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report PED24224/PW24079 – Option 1 – Mud Street South Side Multi-Use Path

Appendix "B" to Report PED24224/PW24079 – Option 2 – Mud Street North Side Multi-Use Path

Appendix "C" to Report PED24224/PW24079 – Option 2 – Neighbourhood Community Connection