

ALIGN



THE RAPID'S TRANSIT IMPROVEMENT STUDY

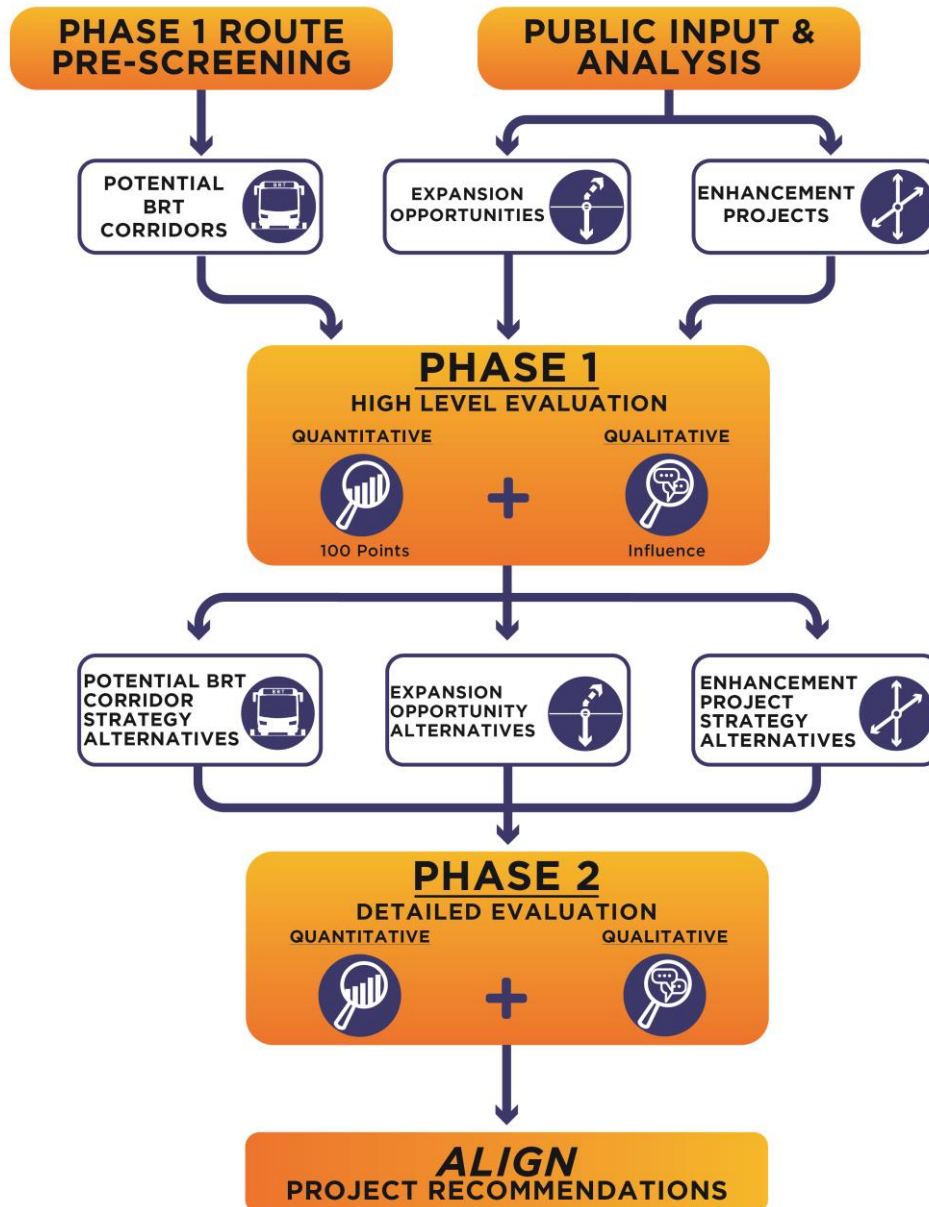
THE RAPID

Tech Memo #4: Phase 1 Project List

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Phase 1 Project List

As shown in the chart below, the initial (Phase 1) evaluation will consider investment corridors, expansion areas and enhancement projects that The Rapid could advance to improve service in the Grand Rapids region. During this phase, the goal is to identify the highest-priority projects that can be developed into more complete alternatives for consideration of cost and implementation possibilities within the recommended Align plan.





These corridors represent the fixed routes with the current highest service levels and ridership demand (see *Corridor Pre-Screening Memorandum* for an overview of how these routes were selected). These corridors are to be considered for service and amenity upgrades to further solidify them as a mode of choice for travel in these corridors, potentially including Bus Rapid Transit improvements as recently created for the Silver Line and Laker Line projects.

Existing Investment Corridors (BRT)	
Route	Major Street(s)
Route 1	Division Ave
Silver Line BRT	Division Ave
Route 50 / Laker Line	Lake Michigan Drive

New Potential Investment Corridors	
Route	Major Street
Route 2	Kalamazoo Ave, Franklin St
Route 3	Madison Ave, Jefferson Ave
Route 4	Eastern Ave
Route 6	Lake Dr, Wealthy St, Breton Rd, Burton St
Route 9	Alpine Ave, Stocking Ave
Route 11	Plainfield Ave, Lafayette Ave
Route 13	Michigan St, Fuller Ave
Route 14	Fulton St, Plymouth Ave
Route 15	College Ave, E Leonard St
Route 19	Michigan St



These expansion areas are zones within The Rapid's service area, or just outside of it, where there is current demand or an indication of need for new transit service. These areas will be considered for improved transit service and accessibility, which could take the form of expanded fixed-route service or other first-mile/last-mile connections from the existing route network.

Potential Expansion Areas		
Projects	Route Extension	Source
Ada Township along E Fulton Avenue	14 - E Fulton	Public
Georgetown Township along Chicago Drive/M-121	24 - Burton	Long Range Plan
Hudsonville via Chicago Drive/M-121 or 44th Street/M-121	24 - Burton, 44 - 44th St	Long Range Plan
Broadmoor Avenue	6 - Eastown, 17 - Airport	Public
Comstock Park / Fifth Third Ballpark	9 - Alpine, 13 - Michigan Fuller North	Public
Rockford Express via M-44	N/A	Public
Division Avenue to 84th Street	SL	Public
Plainfield Twp	11 - Plainfield	Short Range Plan
3 Mile Road – Walker	9 – Alpine	Public, Walker Latent Transit Demand Study



Amenity enhancements are elements that improve the customer experience through more comfortable transit waiting areas, easier access to and between routes, or better connections to other transportation modes.

Amenity Enhancement Types	
Shelter	Traditional transit shelter with seating, cover from elements, and wayfinding
Mobility Hub	Upgrade to hubs that includes spaces for taxi service, carpool, park and ride, car sharing, bicycle storage, etc
Super Stop	Larger shelter to accommodate more riders, wayfinding, real time arrival info, bike parking off board fare payment, heater, level boarding. Smaller than Mobility Hub, for more urban contexts, similar to a BRT stop
Pedestrian Intersection Improvements	Shorter crossing distances, high visibility crosswalks, wayfinding for transfers, lighting, 4 way signals or stop

Potential Amenity Enhancement Projects				
Project	Location	Route	Reasoning	Source
Install Shelters	Burton St from Burlingame to Division	24	High Minority Density, high pop density	AECOM
	Burton St from Eastern to E Paris	24	High Minority Density, high pop density	AECOM
	Michigan St from Monroe to Plymouth	11, 13, 19, 50	High poverty density, high pop & emp density	AECOM
	Grandville Ave / Clyde Park from RCS to Burton	10, 16	Two routes, minority neighborhood	AECOM
	Stocking Ave from Bridge to 6th	9, 18, 19	Three routes, business district, high pop	AECOM
	44th St from Kalamazoo to Walma	2, 44	Multiple Routes	AECOM
	Chicago Dr from Wilson to 28th	24, 28	Multiple Routes	AECOM
	E Fulton from Ottawa to Lake	1, 4, 6, 14, 15, 60	Multiple Routes, high ridership, high pop density	AECOM

**Align: The Rapid's Transit Improvement Study
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	Fuller Ave from Franklin to Hall	2, 5	Multiple Routes, high ridership, high pop density	AECOM
	Alpine Ave from Stocking to Richmond	9, 19	Multiple Routes, high ridership, high pop density	AECOM
	Plainfield from Leonard to Palmer	11	High ridership, schools, minority population	AECOM
	Lake Dr from Fuller to Wealthy	6	Public Input	Public
	Chicago Dr from Burlingame to Hall	8	Public Input	Public
	Bridge St at Bristol Dr	12	Public input	Public
	Bridge St from Seward to Garfield	12	Public Input	Public
	Fuller Ave at Bradford St	13	Public Input	Public
	36 th St at Michael Ave	16	Public Input	Public
	Eastern Ave at 36 th St	4	Public Input	Public
Mobility Hub	GVSU Pew Campus	7, 9, 12, 50	Multiple Routes, high ridership,	Public
	Standale - Lake Michigan at Ferndale Ave	7, 12, 50	High ridership	Public
	Knapps Corner Meijer	15	High Ridership	Public
	68th St and Clyde Park	1	High Ridership, multiple routes	Public
	Woodland Mall	5, 6, 17, 24, 28, 44	High Ridership, multiple routes	Public
	Green Ridge Square - Alpine Ave at Weatherford	9	High Ridership, high employment	Public
Super Stop	Fulton Ave at Gay Ave SE	14, 15, 60,	High ridership, GRCC, Multiple routes	AECOM
	Fountain St at Library Pl	6, 15, 60	High ridership, GRCC, Multiple routes	AECOM
	Union HS - Tremont Blvd at Beaumont Dr	18	High Ridership, school	AECOM
Pedestrian Intersection Improvements	Division Ave at Burton St	SL, 1, 24	High Activity	AECOM
	Division Ave at 28th St	SL, 1, 28	High Activity	AECOM
	Division Ave at 44th St	SL, 1, 44	High Activity	AECOM
	Division Ave at Franklin St	SL, 1, 2	High Activity	AECOM
	Alpine Ave at Myrtle St	9	Slow travel time, nearby elementary school	AECOM
	Alpine Ave at Hillside Dr	9	High Activity	AECOM
	Lane Dr at Fulton St	18	Slow travel time	AECOM
	Lake Michigan Dr at Covell Ave	12, 50	Public Input	Public
	Burton St at Observatory Ave	24	Public Input	Public
Fulton St at Lake Drive	6	Public Input	Public	



Infrastructure enhancements are elements that improve the performance of bus service, although they may or may not be noticeable to the transit customer. These include technologies to give buses priorities at transit signals, designating space within roadways to buses, or other features that that allow for faster boarding and unloading of customers.

Infrastructure Enhancement Types	
Transit Signal Priority	Modifies signal timing/phasing when transit vehicles are present
Queue Jump	Combination of a short dedicated lane with leading signal for transit vehicles only
Bus Bulb	Aligns boarding area with transit travel lane, reduces time needed to pull back out into traffic on busy streets
Dedicated Transit Lane	Lane for exclusive use by transit vehicles. Can help transit speed up in congested areas
Off Board Fare Collection	Allows riders to pay fare off of the bus allowing for quicker boarding times, helpful at busy stops

Potential Infrastructure Enhancement Projects				
Project	Location	Route	Reasoning	Source
Bus Bulbs	State Street at Cherry St ³	4	Poor on time performance	AECOM
	Eastern Ave from Cherry to 28th ³	4	Poor on time performance, slow speed	AECOM
	Walker Ave from Bridge to Van Buren	9, 18, 19	Poor on time performance, traffic congestion	AECOM
	Lake Dr from Fulton to Wealthy	6	Slow travel time	AECOM
	Wealthy St from Lake to Breton	6	Slow travel time, on street parking	AECOM
	Alpine Ave from Walker to Richmond	9, 19	Slow Travel Time, higher ridership	AECOM
	Alpine Ave at Myrtle St	9	Slow travel time, nearby elementary school	AECOM
	Lane Dr at Fulton St	18	Slow travel time	AECOM
	Fulton St from Lake Michigan to Diamond ²	1, 4, 6, 14, 15	Vital Streets Transit Street	AECOM / Prev. Plan

Potential Infrastructure Enhancement Projects				
Project	Location	Route	Reasoning	Source
	Michigan St from Monroe to Plymouth ²	11, 13, 15, 50	Vital Streets Transit Street	AECOM / Prev. Plan
	Lafayette from Michigan to Leonard ²	11	Vital Streets Transit Street	AECOM / Prev. Plan
	Plainfield Ave from Leonard to Fuller ²	11	Vital Streets Transit Street	AECOM / Prev. Plan
	Monroe St from Michigan to Fulton ²	SL, 9, 11, 12, 50	Vital Streets Transit Street	AECOM / Prev. Plan
Dedicated Lane/ Transit Mall	Division Ave from Wealthy to 28th ²	SL, 1	Vital Streets Transit Street	AECOM / Prev. Plan
	Eastern Ave from Lake to 44 th 2	4	Vital Streets Transit Street	AECOM / Prev. Plan
	Lake Dr from Fulton to Wealthy	6	Slow travel time	AECOM
	Wealthy St from Lake to Breton	6	Slow travel time, on street parking	AECOM
Queue Jumps	Alpine Ave from Walker to Richmond	9, 19	Slow Travel Time, higher ridership	AECOM
	Alpine Ave at Myrtle St	9	Slow travel time, nearby elementary school	AECOM
	Lane Dr at Fulton St	18	Slow travel time	AECOM
Transit Signal Priority	Fulton St from Lake Michigan to Diamond ²	1, 4, 6, 14, 15	Vital Streets Transit Street	AECOM / Prev. Plan
	Michigan St from Monroe to Plymouth ²	11, 13, 15, 50	Vital Streets Transit Street	AECOM / Prev. Plan
	Lafayette from Michigan to Leonard ²	11	Vital Streets Transit Street	AECOM / Prev. Plan
	Plainfield Ave from Leonard to Fuller ²	11	Vital Streets Transit Street	AECOM / Prev. Plan
	Monroe St from Michigan to Fulton ²	SL, 9, 11, 12, 50	Vital Streets Transit Street	AECOM / Prev. Plan
	Division Ave from Wealthy to 28th ²	SL, 1	Vital Streets Transit Street	AECOM / Prev. Plan
	Eastern Ave from Lake to 44 th 2	4	Vital Streets Transit Street	AECOM / Prev. Plan
Stop Consolidation	E Leonard from College to Plymouth	15	Too many stops, not highly used	AECOM
	E Fulton from College to Lakeside	14	Too many stops, not highly used	AECOM
	Lake Dr/Breton Rd from Fuller to Burton	6	Too many stops, not highly used, low zero car HH	AECOM
	W Leonard from Maplegrove to Alpine	7	Too many stops, not highly used	AECOM
	Clyde Park from Burton to 36th	10	Too many stops, not highly used	AECOM
	Route 5 north of Burton	5	Too many stops, many not	AECOM

Potential Infrastructure Enhancement Projects				
Project	Location	Route	Reasoning	Source
			highly used	
	Michigan St NE from Monroe to Fuller	19	Too many stops	AECOM
	28th St from Byron Center to Division	28	Too many stops	AECOM
	Franklin St From Division to Fuller	2	Too many stops	AECOM
	Fuller Ave from Wealthy to Kalamazoo	2, 5	Too many stops	AECOM
	Plainfield Ave from Leonard to 3 Mile	11	Too many stops	AECOM
	W Leonard from Scribner to Remembrance	7	Too many stops	AECOM

1: Bundled with Bus Bulb

2: Bundled with Dedicated Lane

3: Bundled with TSP

4: Bundled with Queue Jump

5: Bundled with Transit Mall



Service enhancements are new service types or increases in the frequency or span of service along existing routes. Some of these improvements are Individual Service Enhancement Projects and are for specific routes or areas. The System Wide Service Enhancement Projects are for multiple routes and affect the entire system.

Service Enhancement Types	
Express Service	Limited stop service from outlying areas into downtown Grand Rapids
Increased Frequency	More buses per hour
Longer Service Hours	Service longer into the night or earlier in the morning
Stop Consolidation	Reduction of closely spaced stops to improve travel time
Route Adjustment	Adjustment of a route for greater efficiency
New Route	New transit route within the existing service area

Individual Enhancement Projects				
Project	Location	Route	Reasoning	Source
Express Service	Downtown GR to Airport	n/a	Potential Demand	Long Range Plan
	Downtown GR to 68th St / Division Ave	n/a	Potential Demand	Long Range Plan
	Downtown GR to Knapps Corner	n/a	Potential Demand	Long Range Plan
	Downtown GR to Cascade Twp Meijer	n/a	Potential Demand	Long Range Plan
	Downtown GR to Grandville / Rivertown	n/a	Potential Demand	Long Range Plan
Crosstown	Fulton St - I-196 to Maryland	n/a	Downtown crosstown	AECOM
	Fuller / Kalamazoo - 3 Mile to M-6	n/a	North/south crosstown	AECOM
	Wealthy St - Garfield to Plymouth	n/a	Downtown crosstown	AECOM
	Franklin St - Grandville to Lake	n/a	Downtown crosstown	AECOM
	Michigan/Bridge St - Covell to Plymouth	n/a	Downtown crosstown	AECOM
	Hall St - Grandville to Lake	n/a	Downtown crosstown	AECOM
	East and West Leonard St Crosstown	7, 15	Northside crosstown, Public input	Long Range Plan

Individual Enhancement Projects				
Project	Location	Route	Reasoning	Source
	36th St - Byron Center to Kalamazoo	n/a	Southside crosstown	AECOM
	60 th Street	n/a	Public input	Public
	Plymouth Ave - Leonard to Alger	n/a	North/south crosstown	AECOM
	52nd / 54th - Kenowa to Breton	n/a	Southside crosstown	AECOM
	Wilson Ave - Remembrance to 44th	n/a	Public input	Public
	Beltline Ave - 3 Mile to 44th	n/a	Public input	Public
	3 Mile Rd - Remembrance to Beltline	n/a	Public input	Public
Route Adjustment	Plymouth Ave	5	Adjust Route 5 to serve Plymouth Ave	Public
New Service	Millennium Park	n/a	Public Input	Public
	Kalamazoo Ave to Gaines Twp	2	Potential Demand	Short Range Plan

Potential System Wide Service Enhancement Projects		
Day	Project	Source
Weekday	Extend Service Hours on All Routes to 12:15 AM	Short Range Plan, Public
	Increase Midday Frequency on Existing Routes	Short Range Plan, Public
Saturday	Extend Service Hours (currently ends at 10 PM)	Short Range Plan, Public
	Increase Frequency on Existing Routes	Short Range Plan, Public
Sunday	Extend Service Hours (currently ends at 7 PM)	Short Range Plan, Public
	Add Sunday Routes	Short Range Plan, Public
	Increase Frequency on Existing Routes	Short Range Plan, Public