

# Owen Sound Route Optimization Study

## Owen Sound City Council Meeting

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January 7, 2022

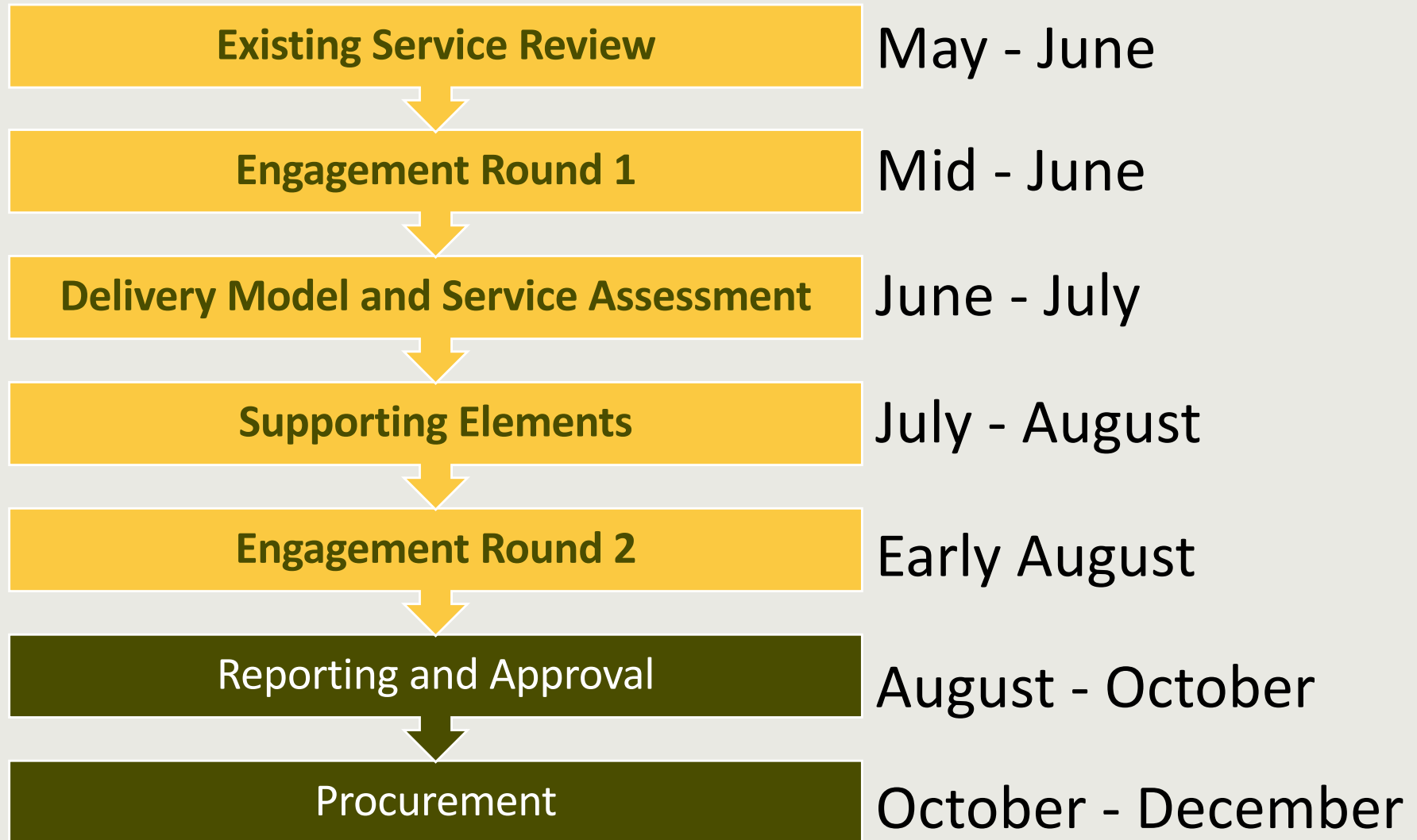


*Dennis Fletcher & Associates*

# Study Scope – What are we assessing?

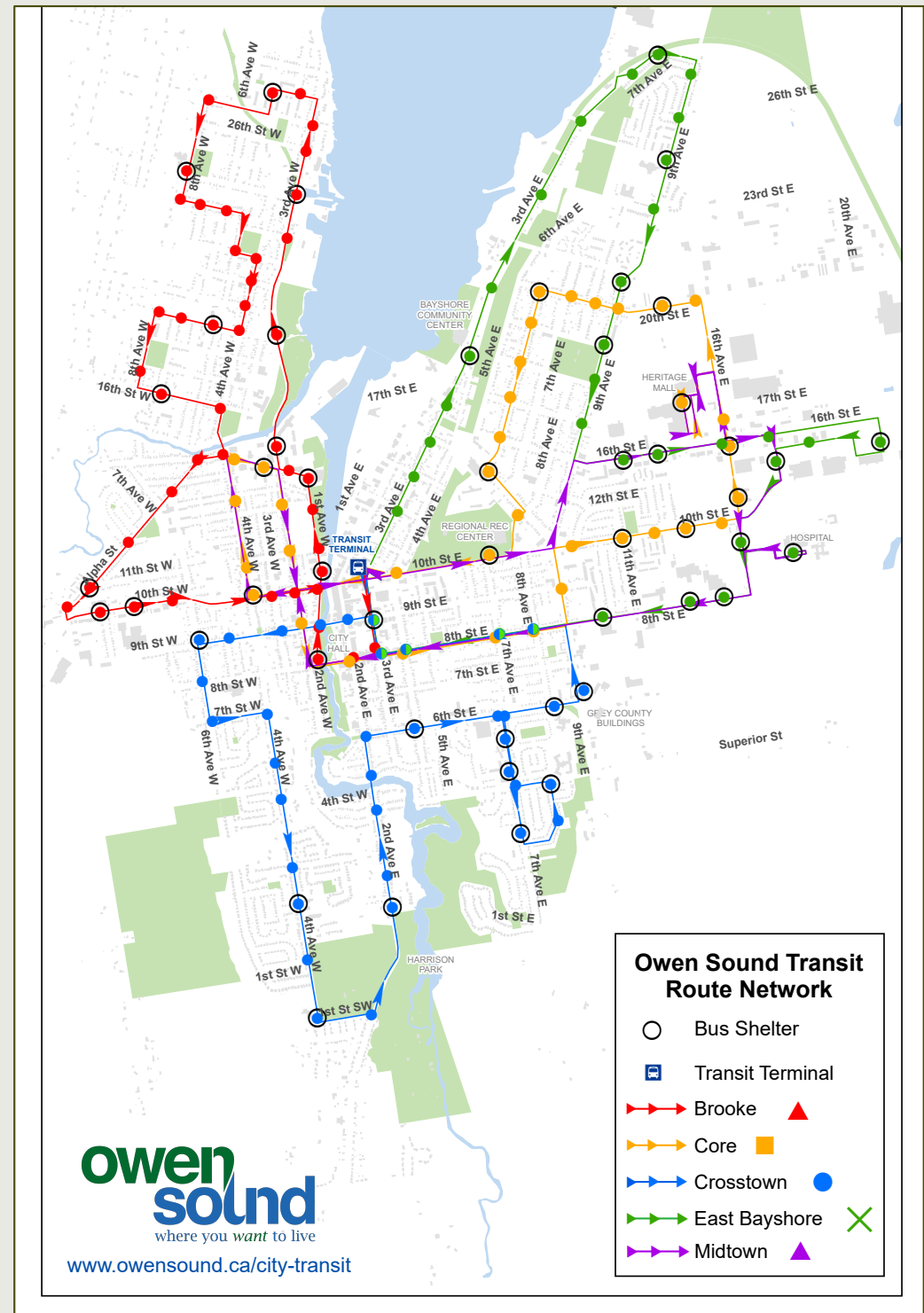
Routes and schedules	Accessibility	Fares	Growth management, costs and monitoring
<ul style="list-style-type: none"><li>• All aspects of routes, coverage, service levels</li><li>• Alignment with adjacent municipalities to form an integrated system</li><li>• Models to determine effective partnerships with high schools and college</li><li>• Service delivery methods</li></ul>	<ul style="list-style-type: none"><li>• Fleet<ul style="list-style-type: none"><li>• Comfort</li><li>• Emissions</li><li>• Ownership</li></ul></li><li>• Stops and infrastructure<ul style="list-style-type: none"><li>• Quality</li><li>• Accessibility</li><li>• Location</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Bus fare/pass structure</li><li>• Costs and discounts</li><li>• Ticket purchasing options</li><li>• Affordability</li></ul>	<ul style="list-style-type: none"><li>• Future growth patterns</li><li>• Transit Implications</li></ul>

# Study Timing



# Current System

- 4 Routes plus Midtown
- Service:
  - 6:30am – 6:30pm weekday service
  - 9:00am – 4:00pm Saturday service
  - No Sunday / holiday service
  - Buses run every 30 minutes
- One-way loops converge on Downtown Terminal



# Guiding Principles

## Adaptability and Accessibility

- Tailor and adapt to local and user-centric needs
- Make transit flexible and accessible to more people
- Improve accessibility and prioritize higher need users

## Smart City Solutions

- Transit connectivity within the City
- Use of smart data and technology
- Multi-modal connectivity
- Data tracking and more responsive service

## Building Strong Partnerships

- Inter-city and inter-regional connections
- Collaborations with upper-tier municipalities

## Reliable and Inclusive

- Simple and easy to use services that are welcoming, reliable and equitable
- Provide all necessary information with a good communications system
- Informative and up to date

## Financial Stability

- Leverage other revenue sources to decrease cost and keep transit affordable
- Aim for most cost-effective solutions
- Balance creativity and affordability

## Health and Sustainability

- Green opportunities transit campaigns
- Climate change friendly operations
- Accessible transit as a social determinant of health

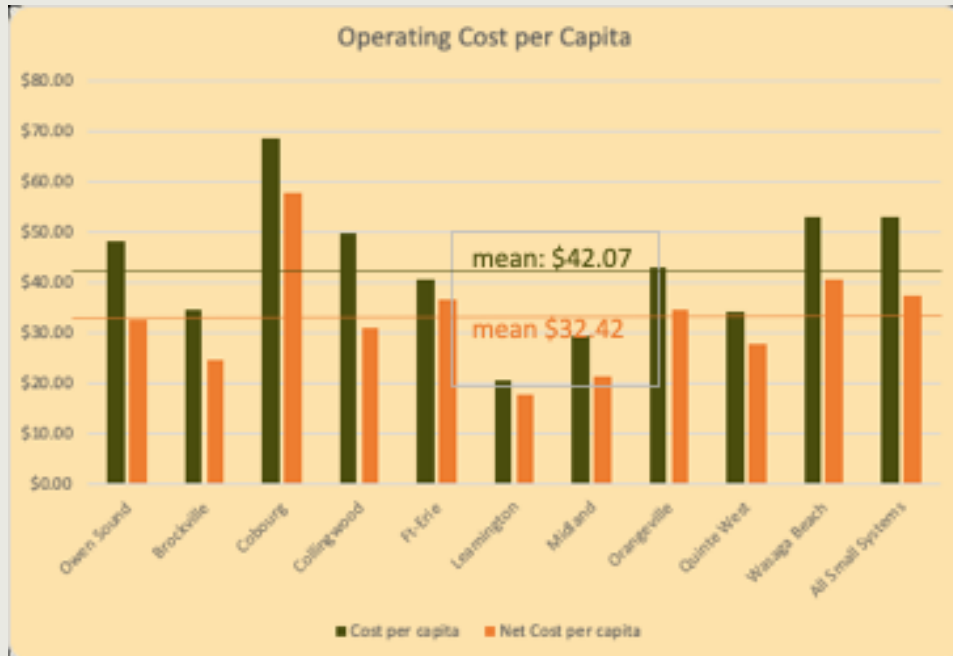
# Implications of COVID-19

- Reduced ridership / revenue
  - Less than in larger communities
  - Recovery may be slow
  - Georgian College partial return will provide information
- Need to incentivize return
  - Systems are adding service, re-allocating service to other areas
- Continuing uncertainty
  - Both in terms of pandemic and rider response
  - Projections include total costs only and range of ridership impacts

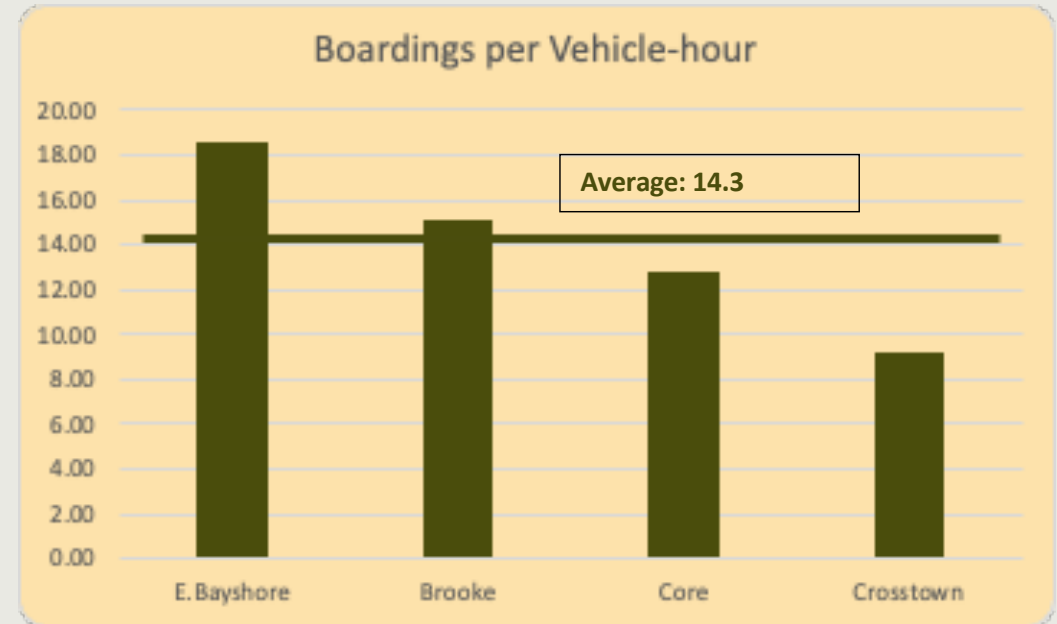


# Summary

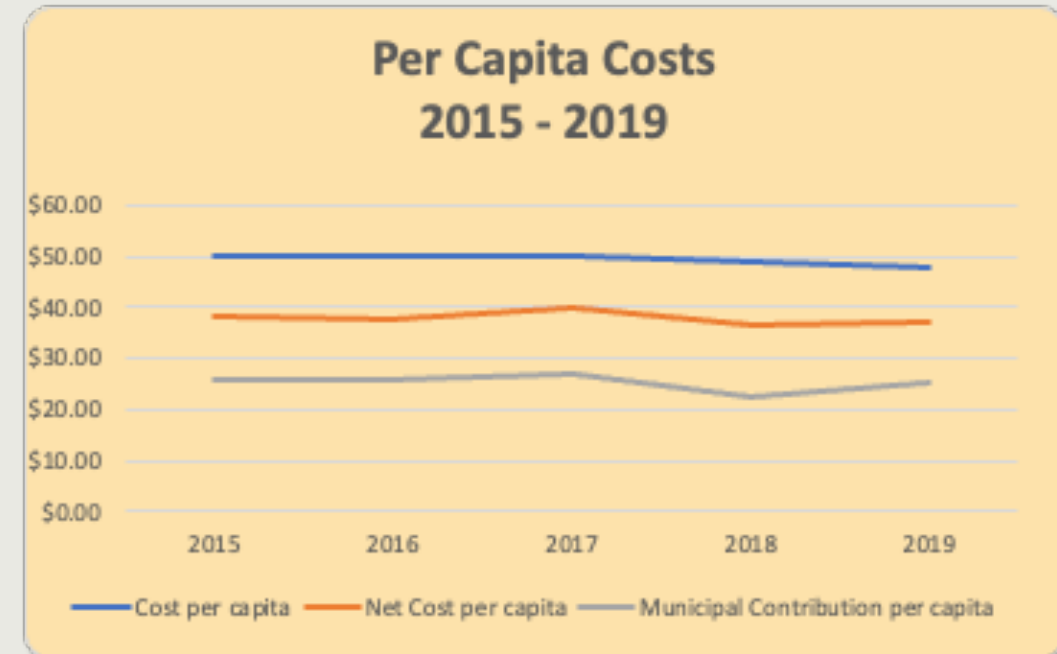
## Municipal Comparison



## Route Comparison



## Time Comparison



## Take-aways:

- Average Performance
- Stable / Stagnant

# Fixed Route Options – Design Objectives



- More frequent service
  - balanced with affordability



- More direct service
  - fewer transfers, shorter trip time



- Additional evening and Sunday service
  - Consider evenings and Sunday



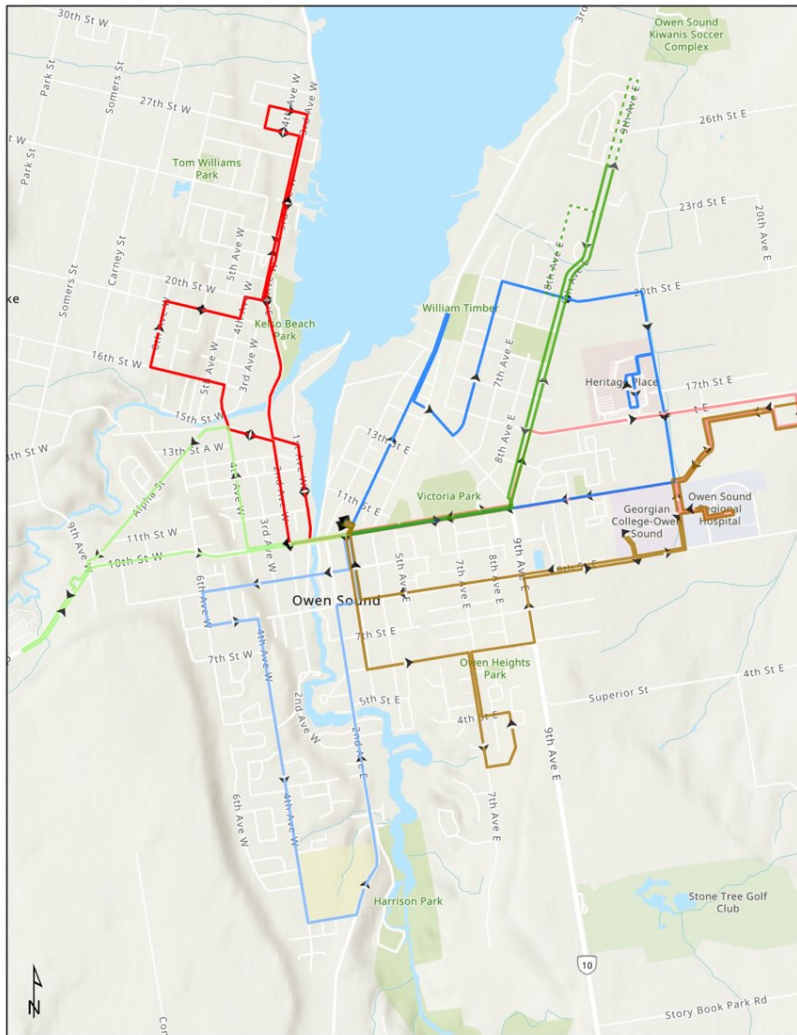
- Service to new areas
  - Sunset Strip, Harrison Park



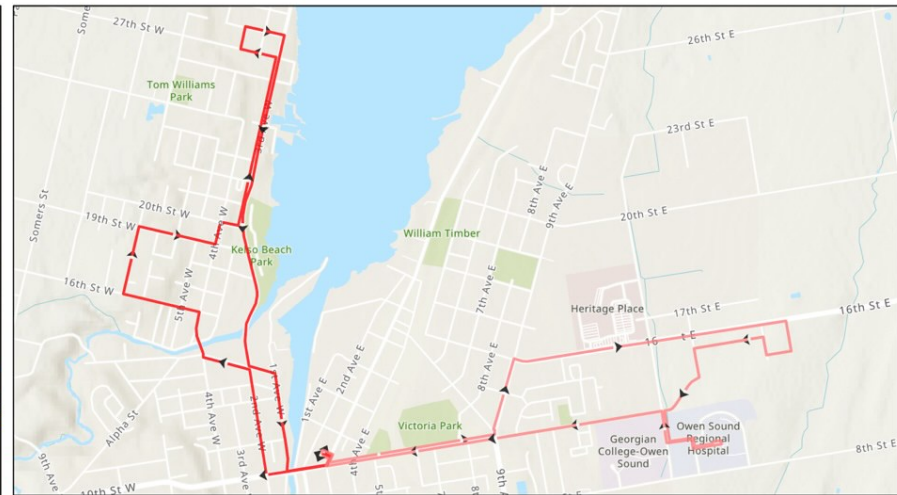
- On-time performance
  - ensure reliability



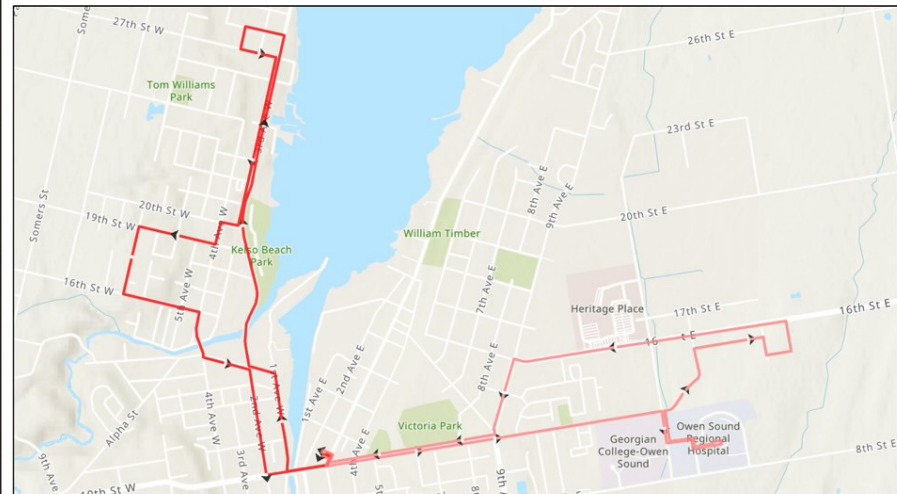
# Fixed Route Options



**Proposed Transit Routes - System-wide (OPTION 1)**

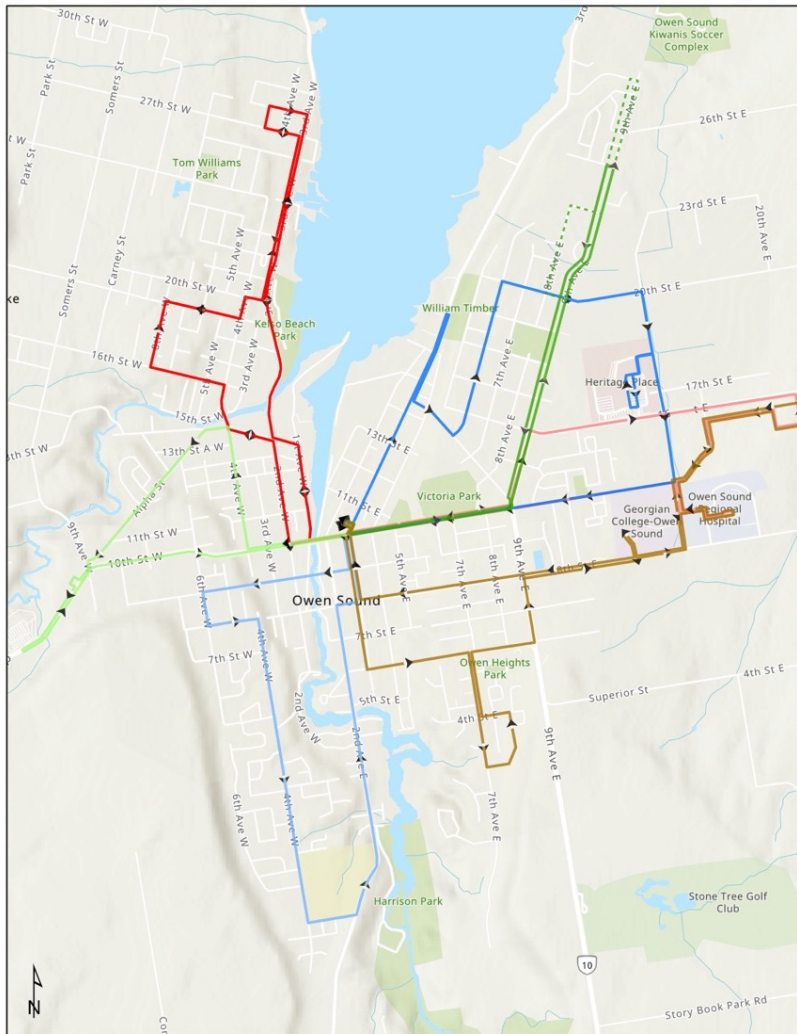


**Proposed Transit Routes - Red A (OPTION 1)**

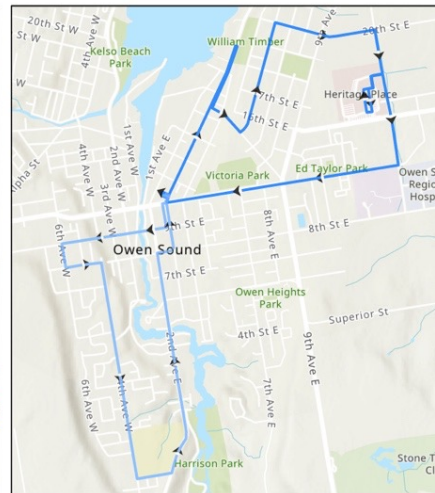


**Proposed Transit Routes - Red B (OPTION 1)**

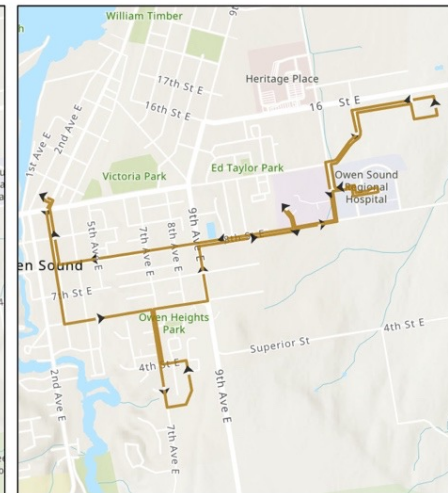
# Fixed Route Options



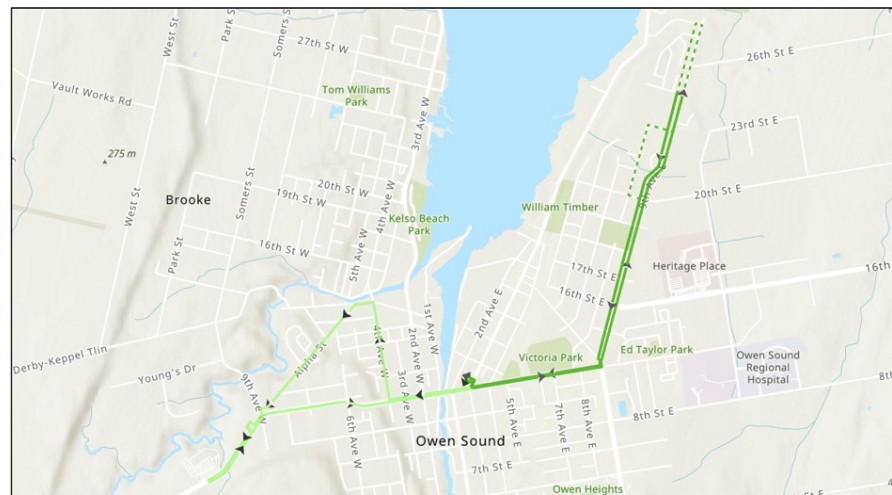
**Proposed Transit Routes - System-wide (OPTION 1)**



**Proposed Transit Routes - Blue (OPTION 1)**



**Proposed Transit Routes - Brown (OPTION 1)**



**Proposed Transit Routes - Green (OPTION 1)**

# Comparison of Option 1 / Option 2

## Common Elements

- 4 routes
- East-west connectivity
- More direct trips
- Shorter trip times for many trips
- Service to Sunset Strip
- Two routes to hospital
- Frequent service to Smart Centre
- 2-way Georgian College service

### Option 1

- Red route
  - 20-minute interval
  - Bi-directional service
- All other routes – 40-minute service
- Transfers:
  - 6 direct transfer-free connections
  - 28 timed connections
  - 8 connections with 20-minute wait

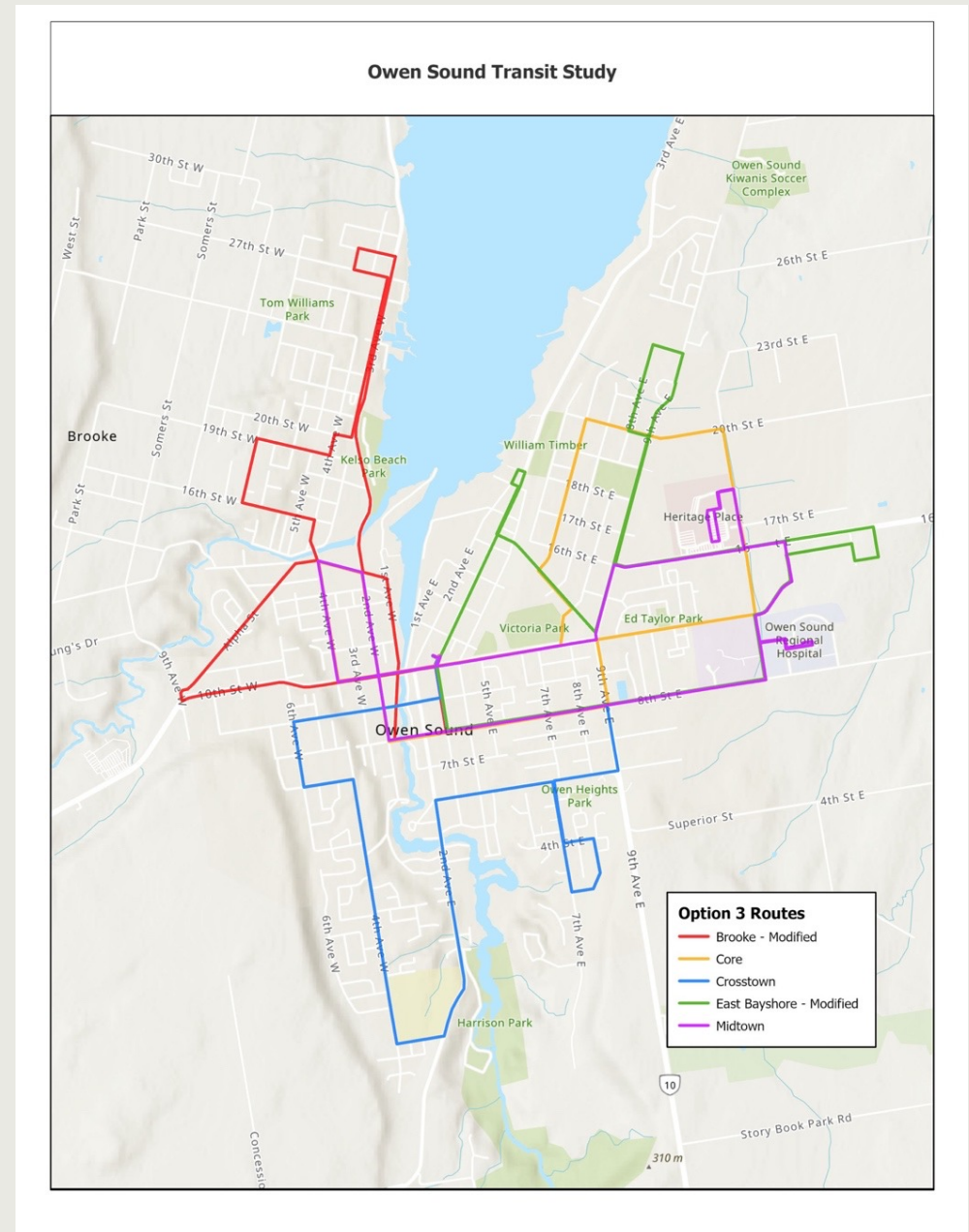
### Option 2

- Red route
  - **40**-minute interval
  - **Uni**-directional service
- All routes – 40-minute service
- Transfers:
  - 6 direct transfer-free connections
  - **18** timed connections
  - **18** connections with 20-minute wait



# Option 3

- Included as 'do-nothing' option
- Preferred to Option 2
- Recommended as default option until Option 1 implemented

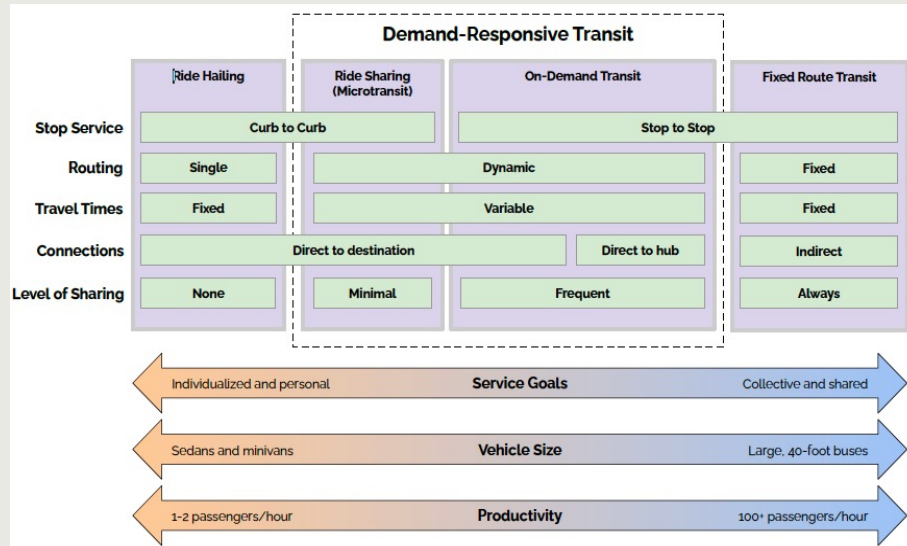


# Fixed Route Options Performance Summary

	Existing 2019	Existing 2021	Option 1	Option 2	Option 3
<b>Annual Vehicle-hours</b>	13,500	13,500	16,500	13,500	13,500
<b>Annual Boardings</b>					
<b>2019 base</b>	195k	100k	235k	205k	195k
<b>no Covid Recovery</b>	195k	100k	115k	±100k	±100k
<b>Boardings per Veh-Hr</b>	14.4	7.5	7 - 14	7 - 15	7 - 14
<b>Boardings per capita</b>	9.1	4.7	5 - 11	9.6	9.1
<b>Annual Operating Cost*</b>	\$1.0M	\$1.0M	\$1.25M	\$1.0M	\$1.0M
<b>Added Annual Cost</b> (total, before revenue and subsidies)			\$250k	\$0	\$0
<b>Cost per boarding</b>	<b>5.64</b>	<b>10.00</b>	<b>5.5 – 10.9</b>	<b>5.4 - 10</b>	<b>5.6 - 10</b>

\*excludes property and terminal costs

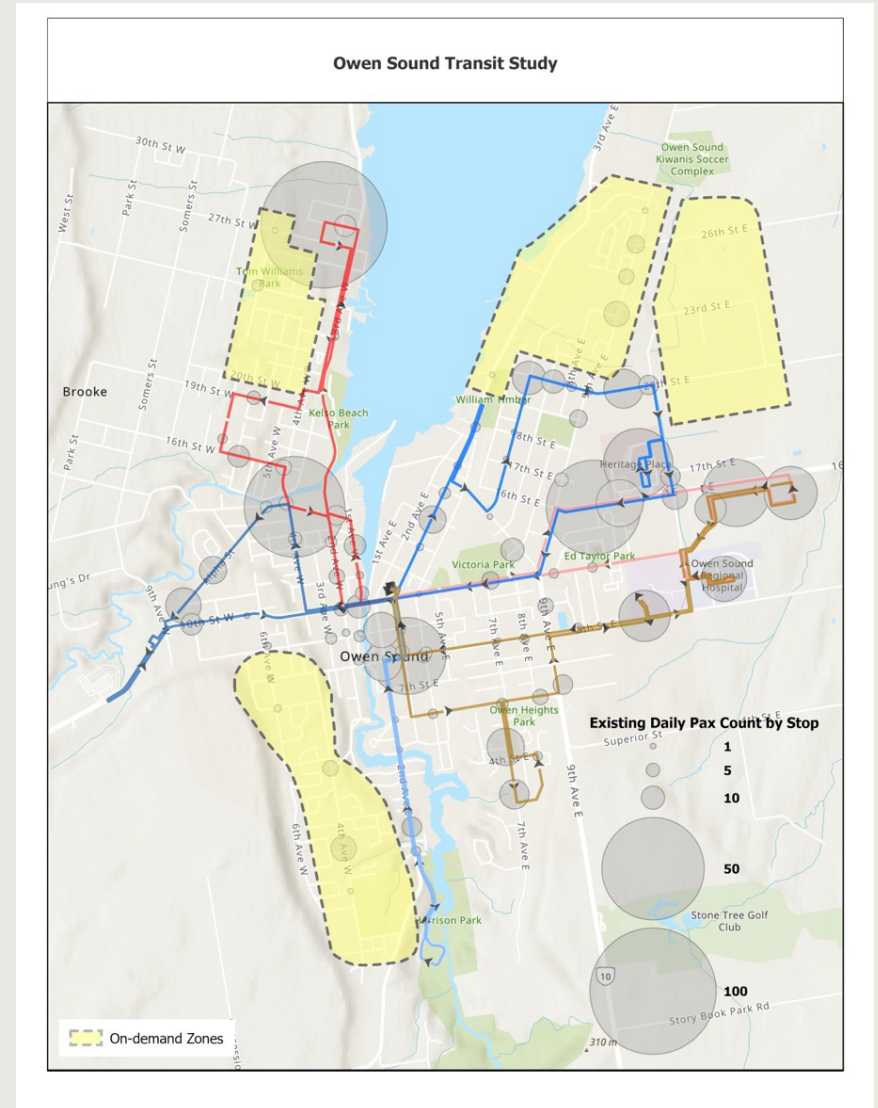
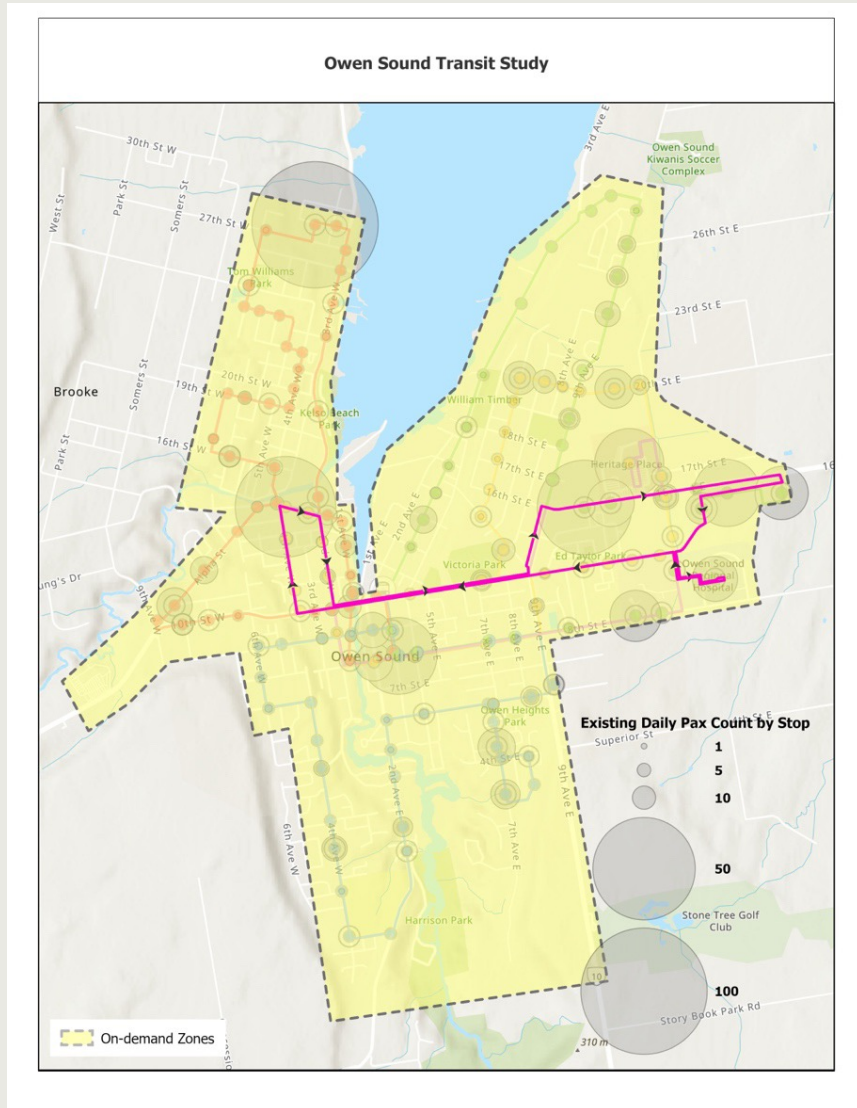
# On-Demand Option



## Design Elements

- **Stop service:** level of service desired – curb-to-curb or local stop access
  - guideline: Common stops with fixed route service; similar locations for virtual stops
- **Response time:** time from booking being confirmed to bus arriving
  - Guideline: about 15 minutes.
- **Level of sharing / maximum trip time:**
  - Guideline: shared rides should be maximized, within maximum trip times
  - Guideline: maximum trips times should be greater than the direct drive time for a private auto to permit shared ride trips
  - Guideline: maximum trips times should be less than the comparable fixed route trip time in the existing service

# Option A and Option B



# Comparison of Option A / Option B

## Option A – Full on-demand

- On-demand throughout the service area
- Allows expansion of service area
- Supplemented by single spine route (optional)
- Requires 3 vehicles for higher demand periods / 2 for lower demand (no spine)
- Suitable for Evenings, Saturday and Sunday
- Use city-owned or operator-supplied vehicles
- Note:
  - On-demand service is not suitable for weekday daytime at pre-Covid ridership levels but could accommodate current ridership.
  - Choosing on-demand for weekday daytime service will limit ridership growth

**Recommended**

## Option B – partial On-Demand

- Maintains core of fixed route system
- Limited expansion of service area
- Uses on-demand for low-demand periods and new areas
- Probably requires 3 on-demand vehicles, in addition to fixed route service
- Suitable for any operating period
- Very high cost resulting from continued fixed route and inefficient on-demand
- Use city-owned or operator vehicles

**Not Recommended**



# Evening Service Summary

	Weekday Evening	Saturday Day	Saturday Evening	Sunday
Early Start Extension	N/A	7:00 am	NA	9:00 am
Late Finish Extension	9:30pm	6:30 pm	9:30pm	6:30pm
Total Added hours	3.5	4	3.5	9.5
Annual New Ridership (2019 base)	17k-20k	5k-6k	4k-5k	4k-5k
Annual New Ridership (2021 base)	10k-12k	2k-3k	2k-3k	2k-3k
Additional Annual Vehicle-hours (on-demand)*	1,800 - 2,600	400 - 600	350 - 500	1,000
Annual Additional Cost*	\$125k – \$180k	\$28k – \$42k	\$25k – \$35k	\$70,000

\* Range of hours and costs depends on 2019 or 2021 ridership base

# Evening Service

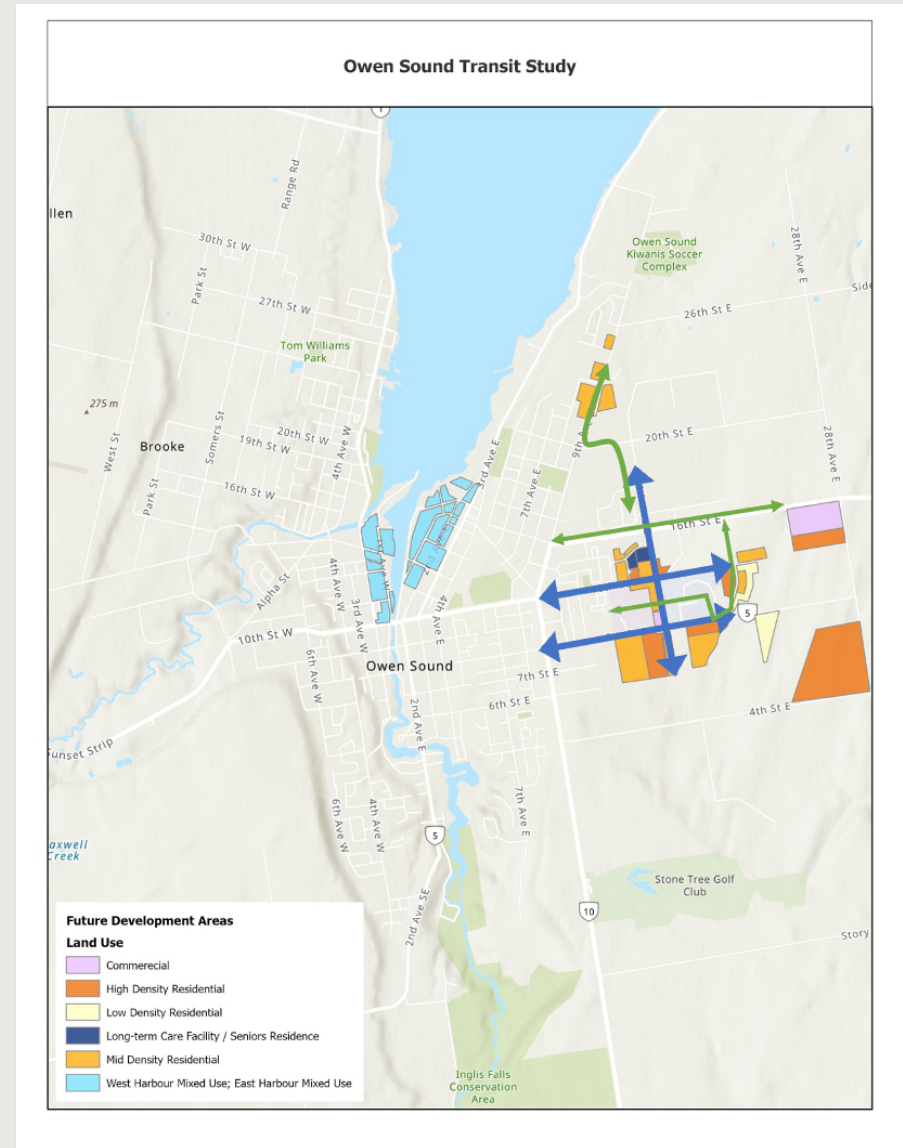
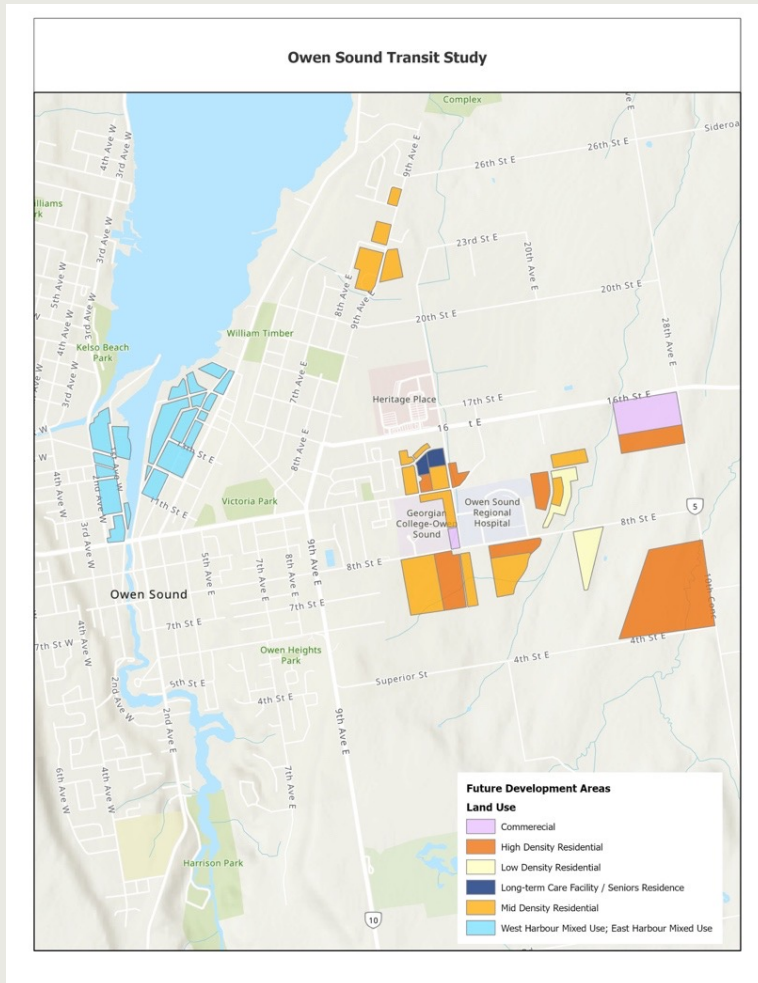
## Assessment

- Benefits
  - Employment access
  - Community mobility and access
  - Transit as a choice
- Ridership
  - 20% to 25% increase
- Cost
  - Evenings: \$175k – \$180k
  - Saturday: \$50k – \$60k
  - Sunday: \$60k – \$70k

## Recommendations

- **Step 1:** Add weekday service to approximately 9:30 (On Demand Option A)
- **Step 2:** convert Saturday service to on-demand and extend hours 7:00 am - 9:30 pm.
- **Step 3:** Introduce Sunday service 9:00 am - 7:pm
- Work with on-demand vendor to develop integrated mobility service, relying on additional hours of existing Mobility service in the interim.

# Future Growth



# Fares Assessment

## Assessment

- Need to maintain affordability
- More flexible fare options
- Increased availability at outlets

## Recommendations

- Defer any fare increase through at least 2024
- Change Child fare classification to 12 years
- Maintain Senior and Student fare structure in short-term
- Free fixed route transit for Mobility Bus-eligible customers
- Low-income fare options
  - Work with provincial and local agencies
- Sales Outlets
  - Expand network of city facilities
  - Explore commission-based agreements with other agencies
- Regional Coordination
  - Free transfer from GOST and GTR to Owen Sound Transit
  - Review option for transfer fare discount to GTR
- Mobile and FareCard Payments - Develop RFI /RFP

# Fleet

## Assessment

- Existing vehicles need replacement
- Capital funding environment favours City ownership
- Ownership model not possible for implementation April 1, 2022
- Electric vehicle technology available, affordable and appropriate

## Recommendations

- Prepare RFI for vehicles options
  - Medium duty / heavy Duty
  - Electric / fuel
- Prepare and submit funding applications
- Prepare new service RFP based on OOM model, with transition to OM model in second stage of contract
  - Subject to capital funding availability

# Facilities

## Assessment

- Stop accessibility enhancements are on-going
- Under-utilization of some stops increases maintenance costs and slows buses

## Recommendations

- Continue to prioritize accessibility improvements consistent with City Accessibility Plan
  - 2021-2025
- Install new stop required for Fixed Route Option 1
  - Jan – Mar 2022
- Review and remove selected existing stops based on updated ridership counts
  - Jan – Mar 2022

# Technology

## Assessment

- Need better communication of schedules and transit information
- Opportunity to modernize
  - Communications
  - Fare technology

## Recommendations

- Develop schedule database to support:
  - Transit web page publication of detailed schedules (Jan – Mar 2022)
  - web map-based schedule data and independent developer initiatives (2022)
- Install real-time schedule information system

# Funding

## Federal

- ICIP (Permanent Transit Fund) – ending
- Permanent Transit Fund - beginning
- Rural Transit Infrastructure Program
- CIB Financing – for ZEVs

## Provincial

- Safe Restart (ending)
- Gas Tax (on-going)
  - Reduced based on 2020 revenue decline



# Financial Requirements – Capital Costs and Funding (\$,000s)

	Year 1 22/23	Option 1 Year 2 23/24	Option 2/3 Year 2 23/24	Year 3 24/25	Year 4 25/26	Year 5 26/27
<b>Vehicle Replacement</b>		\$2,100	\$1,750			
<b>Stops and Facilities</b>	\$315	\$115	\$115	\$115	\$115	\$115
<b>Technology</b>	\$100	\$60	\$60			
<b>Total Non-Vehicle Capital Cost</b>	\$415	\$175	\$175	\$115	\$115	\$115
<b>Total Capital Cost</b>	\$415	\$2,275	\$1,925	\$115	\$115	\$115
<b>Federal/Provincial Capital Funding</b>		\$1,700	1,450			
<b>Vehicle Subsidy</b>		\$1,550	\$1,275			
<b>CIB ZEB Financing (e-bus premium)</b>		\$160	\$135			
<b>Net Vehicle Capital Cost</b>		\$390	\$340			
<b>Other Capital Subsidy</b>	\$ 305	\$ 130	\$ 130	\$ 85	\$ 85	\$ 85
<b>Net Non-Vehicle Capital Cost</b>	\$110	\$45	\$45	\$30	\$30	\$30
<b>Total Net Capital Cost</b>	\$110	\$435	\$385	\$30	\$30	\$30

# Financial Requirements – Operating Costs (\$,000s)

Weekday - Daytime	Existing	Option 1	Option 2	Option 3
<b>Annual Operating Cost*</b>	\$1.0M	\$1.25M	\$1.0M	\$1.0M
<b>Added Annual Cost</b> (total, before revenue and subsidies)		\$250,000	\$0	\$0

\*excludes property and terminal costs

Evening / Weekend Additions	Stage 1 Weekday Evening	Stage 2a Saturday Day	Stage 2b Saturday Evening	Stage 3 Sunday
<b>Additional Annual Vehicle-hours (on-demand)*</b>	1,800 - 2,600	400 - 600	350 - 500	1,000
<b>Annual Additional Cost*</b>	\$125k – \$180k	\$28k – \$42k	\$25k – \$35k	\$70,000

## Upper Tier Support:

- Annual Gas Tax (\$240k)
  - Anticipating 20% decline in provincial pool
  - uncertain about top-up
- Safe Restart Fund(\$250k)
  - scheduled to end December 31
  - Uncertain about extension
- MTEC (cleaning) fund ending (\$10k)
- Rural Transit Planning Grants beginning (\$15k-\$35k)