Citizens' Capital Investment Recommendations for Winnipeg Transit

Introduction

This document recommends how Winnipeg should invest in transit capital improvements. The recommendations made here are from citizens who have been involved in public transit research, design, development, or advocacy for many years. (See "Contributors")

The recommendations have been organized into short (beginning this year), medium (beginning within 2 years), and long-term (beginning within 4 years) implementation with respect to these topic areas:

- **Operations** - Improvements to Winnipeg Transit system infrastructure and operations to keep buses on the road
- **Service** - In general, these improvements will encourage more people to ride the bus
- **Innovation** - Initiatives to encourage new approaches and technologies
- **Integration** - Ways to help people use different modes of transport to get to and from the bus

Highlighted items should be given priority consideration. However, we feel that all recommendations need to be implemented.

Operations

Improvements to Winnipeg Transit system infrastructure and operations to keep buses on the road.

Short Term

- **Increase bus fleet** - These should be some diesel and some electric. Consider second-hand diesel buses that do not have the Cummins pollution control issue, if they can be found. Ultimately, we need sufficient buses to satisfy current and future ridership and service provision goals.
    - At minimum, Winnipeg Transit must ensure that it has sufficient buses to maintain its current level of service. It is critical that Winnipeg doesn't find itself in a situation like what happened in September, 2015 ever again. http://www.winnipegfreepress.com/local/Maintenance-backlog-forces-Winnipeg-Transit-to-reduce-bus-service-326302201.html

    - Further investments in buses will need to be made to reach further ridership goals.
- **Winnipeg North Transit garage study** - Determine needs for Winnipeg North Transit garage. Create a plan for renewal, upgrade, or replacement.

Medium Term

- **Replace Winnipeg North Transit garage** - Upgrade and expansion is required for the Transit garage at 1520 Main St. This upgrade will likely mean relocation and replacement.
- **Expand Maintenance shop** - The current maintenance shop is not adequate to service the anticipated number of buses we need and should be acquiring in the near future.

Service

In general, these will encourage more people to ride the bus.

Short Term

- **Conduct Human Transit study and prep** - Work with Jarrett Walker[1] and stakeholders to develop an overarching strategy and approach for redeveloping the transit system:
    - **Patronage-Coverage Assessment** - Conduct a patronage / coverage analysis of existing services to give us a baseline.
    - **Stakeholder workshop** - Invite 30 or 40 influential people to a 4-hour workshop. This includes a transit mapping and planning game where participants would better understand the consequences of planning decisions.
    - **Inform Public about Human Transit** - Put on a public engagement session for the general public. The theme would be "What is Human Transit and could it work in Winnipeg?"
    - **Produce a "Transit Choices" Report** - Jarrett and company would undertake a month-long review of our existing network and system and provide a report of options to consider moving forward. (NOTE: The scope of this assessment should include the plans for the SWRTC to ensure that those plans integrate RT with the overall Frequent Service Network.)

[1] Jarrett Walker is author of *Human Transit* and has been a respected transit consultant for decades. Jarrett works from Portland and has worked all over the world. He is now working in Edmonton, Saskatoon, Houston, TX, and others.

    - **Adopt a Patronage-Coverage Policy** - City council should adopt a Patronage-Coverage ratio that Transit would plan to achieve or maintain. (This step would really clarify the planning and be a way to push back when individual phone calls to councillors attempt to adjust or prevent adjustments to routes.)
    - **Examples**: Cities that have had a Jarrett Walker review: Seattle, Tucson, Toronto, Houston, Indianapolis, Las Vegas. Major Canadian cities that Jarrett Walker and Associates have been involved in projects include Edmonton and Vancouver

- **Complete functional design study for next Rapid transit corridor** - Functional design study for the next (Eastern?) rapid transit corridor. Ensure that the preferred routing of the corridor is placed in proximity to ***existing*** and latent demand for transit. This will enable early transit oriented development (TOD) and increase densification of existing areas along the route.
    - "Key considerations for transit service include frequency of service, customer service, affordability and safety. The environment, which incorporates street design, transit access points, and neighbourhood design, must be supportive of transit service. The success of the transit provided is otherwise limited." (*Plain Transit for Planners*, Ontario Professional Planners Institute, pg 2-3)
- **Develop an updated transit strategy** - Determine ridership and service provision goals. Coordinate with city expansion plans. Ensure that this has an equity lens (not equality lens). Don't build high-density housing without consistent bus service.
- **Model and test a Frequent Service Network (FSN)** - Develop a simplified frequent route network that covers as much of the city as practicable. Use Transit's new Visum computer modelling system to test the proposed network.
    - **Example**: Houston increased ridership by eight percent within three months of redesigning their network and increasing frequency. http://www.citylab.com/commute/2016/04/how-houstons-bus-network-got-its-groove-back/476784/
    - **Example**: Minneapolis' high frequency routes map (weekdays 6 AM to 7 PM and Saturdays 9 AM to 6 PM): https://www.flickr.com/photos/rllayman/4671022131
    - **Example**: Edmonton's high frequency routes map (weekdays 6 AM to 10 PM, Saturdays 8:30 AM to 8:45 PM and Sundays 10:15 AM to 6:30 PM)
- **Improve customer-focused amenities**

- **Bus shelters** - Increase the number of shelters and the number of heated shelters. Investigate more climate appropriate, innovative, alternative designs. (e.g. In-ground heat) We suggest a design competition. Make all shelters (including existing) more accessible:
  - Put annunciator screens within shelter.
  - Include audible annunciation inside and outside shelter.
  - Modify door operation to accommodate wheelchairs and people of limited strength.
  - Modify seating to accommodate wheelchairs.
- **On-Board amenities** - These include WiFi/USB ports on new buses. New York: http://transitwireless.com/

Medium Term

- **Implement Frequent Service Network (FSN)** - Implement a comprehensive frequent service network. The timing of this would be best if it could be in concert with the opening of Southwest Transitway Phase 2. In this way, all transit riders would see benefits in service.
  - See examples in short term section above.

Longer Term

- **Create a grid-oriented or multi-hub & spoke network** - Apply principles of good transit system design to rationalize the entire network.
  - Hub and spoke advocated for in Winnipeg by Barry Prentice: http://www.cbc.ca/news/canada/manitoba/hub-and-spoke-transit-system-could-boost-bus-ridership-analyst-1.717641
  - Paper on Hub and Spoke that found it to be effective: http://www.sciencedirect.com/science/article/pii/S1877042813045692
  - **Example of route restructuring: Tallahassee:** http://www.citylab.com/commute/2011/09/tallahassee-bus-system/118/

Innovation

Initiatives to encourage new approaches and technologies.

Short Term

- **Buy electric buses** - Purchase sufficient electric buses and build charging stations in locations that will be consistent with the Frequent Service Network implementation.

    - **Example**: St. Albert, Alberta is undertaking a similar project beginning autumn, 2016 https://stalbert.ca/city-hall/news/news-releases/city-of-st.-albert-purchases-three-electric-buses
    - **Example**: The largest bus vendors in the world listed here: http://www.businesswire.com/news/home/20160505005030/en/Technavio-Announces-Top-Vendors-Global-Electric-Bus. Shenzhen's transit fleet is exclusively electric buses. The city made a significant electric bus purchase for 2016 https://www.youtube.com/watch?v=sLo3Pn4KC3w
- **Contract for community-based travel marketing** (CBTM) - This is a specialized application of Community Based Social Marketing (CBSM) that uses an individualized marketing approach. It requires professionals with training, experience, time and budget. However, if properly conducted, this will virtually guarantee increase in ridership and rider satisfaction, and optimize the investment in transit infrastructure.
    - **Example:** The WinSmart CBTM project, funded by the Province of Manitoba and Government of Canada in partnership with the City of Winnipeg, resulted in an 11.9% reduction in drive alone trips. The project was delivered by Green Action Centre, creating local knowledge and expertise in individualized marketing. Full report here: http://greenactioncentre.ca/content/cbtm/
    - **Example**: Portland's SmartTrips Green Line Project focused on outreach along the newly built light rail line that included new cycling and pedestrian facilities. Results included an 18.4% reduction in drive alone trips and a 30.4% increase overall in trips made by transit, walking and cycling (transit trips increased 15%). Full report here: https://www.portlandoregon.gov/transportation/article/331242
- **Develop an appropriate system for measuring success** - We need a metric and a system for collection of relevant data to adequately assess the impacts of new developments.

Medium Term

- **Investigate "Micro-transit" alternatives** - We might be able to reduce coverage to low ridership "feeder-route" areas with novel alternatives. Some possibilities include ideas such as small buses, buses that only respond to demand, or subscriber-based commercial enterprises.
    - **Example**: The Wave in Houston, Texas. http://www.thehoustonwave.com/

    - Some challenges exist with integrating and regulating privately run "jitney" bus services. Interference with existing service and the fact that such services may use a non-unionized workforce can lead to challenges. https://trid.trb.org/view.aspx?id=412842

- **Conduct pilot project research** - In order to keep moving forward, we need to continually be aware of new global developments. Further, we need to be continually testing these new ideas here in controlled experiments on our network.

Long Term

- **Transition completely to an all-electric fleet** - Ensure that short and medium term decisions and developments are consistent with and support this objective. (e.g. garage design).

Integration

Ways to help people use different modes of transport to get to and from the bus.

Short Term

- **Promote uptake of inter-modal daily transportation strategies** - Encourage people to bike to bus stops as part of their daily commute.
- **Enhance Active Transportation (AT) connections** - There are three areas for consideration here:
    - Prioritize development of those aspects of the Pedestrian and Cycling Strategy that will enable cyclists and pedestrians to access the Transit network and especially the Frequent Service Network.
    - Ensure that new housing developments include bike and pedestrian paths to access FSN network.
    - Develop new cut-through pathways to transit in existing neighbourhoods.
- **Prioritize snow clearing on pedestrian and cycling routes** - This prioritization should apply especially to routes that feed the FSN.
- **Install more bike lockers and ground racks at key transit connection points** - Ensure that people can lock their bikes securely if they cycle from home to take the bus. This is especially appropriate to access an FSN station and in areas where neighbourhood design makes adequate bus service very difficult.
- **Install more bike racks on buses** - The key here is to ensure reliability for cyclists. Even though the University of Manitoba routes (60, 160) are

supposed to always have racks, this is not always the case. It must be reliable. Consider equipping all the FSN buses.

Medium Term

- **Develop a First Mile /Last Mile Policy** - This is a systematized aspect of the short term recommendations above. Developing and documenting this as a policy will ensure that all new infrastructure planning and design will include intermodal integration.
    - **Example**: Brisbane http://www.brisbanetimes.com.au/queensland/uber-review-the-plan-to-transform-brisbanes-public-transport-system-20160604-gpbkym.html

Longer Term

- **Investigate on-demand transportation alternatives** - There are various possible options to solve the "poor service feeder route" challenge. These solutions often involve some kind system where the rider calls for the bus. (e.g. Dial-a-bus, Uber, Bridj)

Contributors

These people contributed directly to the content of this document.

- **James Cook** - James works at Peg City Car Co-op and is a Masters of City Planning student (2nd year).
- **Curt Hull** - Curt Hull is a professional engineer and project manager for Climate Change Connection. He has been a long-time contributor to groups promoting alternative transportation (e.g. Winnipeg Rapid Transit Coalition, Bike Winnipeg, Winnipeg Transit Riders Association)
- **Ken Klassen** - Ken Klassen is a Certified Engineering Technologist based in Winnipeg. He has more than three decades of experience encouraging sustainable design and construction practices in Canada, Europe and Asia. His specialty is accelerating the adoption of new techniques and innovative technologies to improve energy efficiency, expand the use of renewable energy, and reduce the environmental impacts of new and existing homes, buildings and communities.
- **Joseph Kornelsen** - Chair of Functional Transit Winnipeg. In 2015, Functional Transit submitted a report to the City of Winnipeg encouraging the city to invest in higher frequency transit service. Joseph holds a BA in economics.
- **Beth McKechnie** - Green Action Centre Workplace Commuter Options program coordinator since 2006 and co-founder of Peg City Car Co-op. Member of the City's Active Transportation Advisory Committee since its inception

in 2007 and member of the Advisory Committee for Winnipeg's Transportation Master Plan.

- **David Wyatt** - Has a long-time interest in and has made himself very knowledgeable about public transit system design and implementation.
- **Zanna Joyce** - Long-time advocate for better accessibility for transit riders.

Reviewers

These people were invited to review and provide comment on this document.

- **John Callahan** - President of Winnipeg Amalgamated Transit Union (ATU) Local 1505.
- **Dr Barry Prentice** - Professor of Supply Chain Management, at the I.H. Asper School of Business, University of Manitoba, former Transport Institute Director.
- **James Magnus-Johnston** - Co-chair of Transition Winnipeg. Lead editor of Transition Winnipeg's energy descent action plan (EDAP): "*Winnipeg's Great Transition: Ideas and Actions for a Low-Carbon, Climate-Resilient Future*"