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For Information Only

Transit Standards & Performance Indicators

Recommendation

For Information Only

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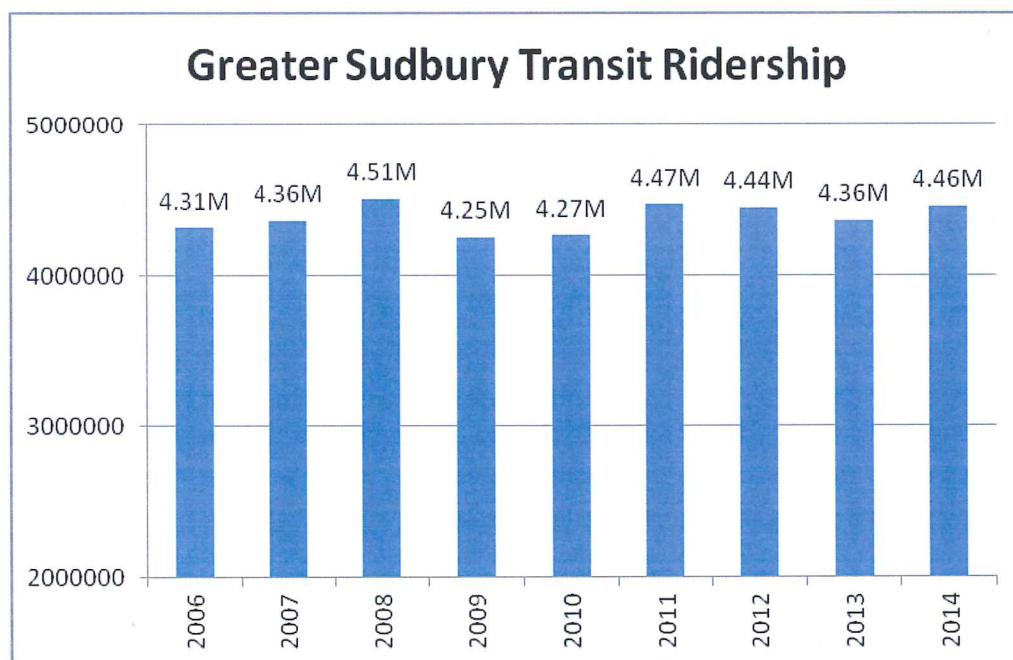
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Background

Greater Sudbury Transit's aim is to deliver quality, affordable, accessible transit services that link people, jobs and communities. Greater Sudbury Transit's conventional service provides fixed routes between urban and commuter areas. This service is supplemented with a Trans Cab Service to provide door to door service for passengers in areas of reduced travel demand. Greater Sudbury Transit also offers specialized transit services to persons who have physical disabilities and are unable to use the conventional transit system. Appendix A depicts the area serviced by Greater Sudbury Transit's Conventional, Specialized and Trans-Cab services.

In 2006, Transit staff along with consultants from Entra consulting and the Gooderham Group presented a Ridership Growth Strategy and an Asset Management plan to Council. Further to the presentation, Council reviewed and approved in principle several strategies and initiatives to increase transit ridership. Within these strategies, service standards were introduced. Service standards provide a framework for staff to monitor and analyze data collected from the fare collection and AVL systems.



Ridership levels in the last few years have stabilized. A full assessment of the conventional transit system is required to identify improvements which can be made to the service, which may in turn increase ridership. In order to do so, and continue to meet Greater Sudbury Transit's aim, a systematic approach must be taken.

Purpose

This report will give an overview to the Operations Committee of Greater Transit's Service Design Standards, Key Performance Indicators and reporting/monitoring service review process. These tools will be the foundation for staff to perform a systematic assessment on past and current performance of routes and provide a framework to assess requests for new, modified or extended services.

Service Design Standards

Service design standards guide the design of a transit network by ensuring availability and reliability of service, convenience, and comfort to passengers. They are an important tool in assessing and monitoring the financial and operating performance of the system and individual routes.

Service design standards define the minimum amount of service provided during an entire day regardless of the level of ridership. This is known as "Base service" and is expressed in terms of coverage, hours of service, and frequency of service. Greater Sudbury Transit's base hours of service are from 7 a.m. until 10 p.m, and the frequency of service is provided at minimum intervals of 60 minutes in urban areas, and 9 trips per service day for Commuter areas.

"Customer-based service" is the amount of service provided above the base service where ridership is sufficiently higher to warrant and support additional service. This enhanced service is provided through higher frequencies, where the return on investment is significantly higher than the return achieved in the base service.

Greater Sudbury Transit's current system as a whole consists of 57% base service, and 43% customer base service. The following is a breakdown by Service Day.

Service Day	Base Service	Customer Base Service
Weekday	53%	46%
Saturday	64%	37%
Sunday	83%	23%

The standards in Table 1 were approved in principle by Council in 2006 and are consistent with industry standards. Several amendments have been made to ensure current industry standards are being met. The standards are applied when monitoring and measuring system efficiencies within the Greater Sudbury Transit's System, and for assessment of new service requests from the general public. When performing a complete system review, these standards will be reviewed against the actual service provided.

Table 1: Service Design Standards

Standard	Description	Status and Next Steps
Service area	The Sudbury Transit system serves urbanized areas of Greater Sudbury, including the urban commuter areas, subject to the provisions of the approved service design standards. There are separate standards for Urban and Commuter routes.	Compliant with service standard
Service frequency	Service is provided on urban route base service at a minimum frequency of 60 minutes. Service is provided on Commuter routes with at least 9 trips per service day, comprising three AM peak inbound trips, and three PM peak outbound trips, plus one trip in each direction in the midday and one outbound trip later in the PM.	Compliant with base service standard. Review is required on frequency of customer based trips
Service hours	Base level service on urban routes is generally provided between the hours of 7 a.m. to 10 p.m. Customer-based service is provided outside of the base level service in response to ridership demand. This includes earlier AM trips and after 10 p.m. service. All customer-based service hours are monitored for economic performance and may be adjusted when demand does not meet boarding thresholds. Base level service of Commuter routes include no fewer than 9 trips, with the first AM trip designed to arrive at the Transit Terminal no later than 8 a.m., the last trip designed to leave the Terminal no earlier than 7 p.m. Council approval is required for changes to Base level or customer based service.	Compliant with base service standard. Review is required of service hours on customer based trips to ensure economic performance.
Walking distance	Population served by transit is determined by walking distance to a bus route. Individuals who are within 400 meters of a bus route are considered to be within the service area.	Compliant with service standard.

Stop Spacing	Bus stops are generally placed at interval of 250 metres, unless restricted by reason of safety or areas of high demand. In areas of low density population, bus stop distances are necessarily higher at general intervals of approximately 450 metres.	Standard applied with requests for bus stop installation. Review of stop spacing by route is required where on-time performance is poor.
Shelters	Shelters may be provided pursuant to the Bus Shelter Request Policy in Appendix B, a point based system which is monitored on an ongoing basis.	Existing shelters were grandfathered and are monitored based on the point system. Removal and relocation of these shelters are made in conjunction with capital projects.
Fare Structure	Fare structure offers economic incentive for use through discounted fares with tickets and passes. Approved fare structures are reviewed annually. Adequate lead-time is provided to the public in advance of introducing fare increases.	Fares reviewed annually through user fee by-law.
System Equipment	Low Floor accessible transportation shall be provided, and all vehicles will be equipped with next stop announcement system. Vehicles are required to have 25% Canadian Content.	Compliant with service standard
Passenger loading standards	The number of buses required for a route may be determined by route loading capacities. Urban routes should not exceed a maximum average load of 150% seating capacity; Commuter routes should not exceed a maximum average load of 130% seating capacity.	Passenger loads consistently exceeding or falling below standard targets may trigger a review of service. Automatic Passenger Counter information will shortly be available to review route passenger loading data accurately.
Schedule adherence	No bus should leave published time points earlier than its designated time of departure. Greater Sudbury Transit will strive to meet a target of 90 percent schedule adherence, where buses should be "on time" within three minutes late of schedule."	Schedule adherence and operator performance monitored in order to meet this standard. Adjustments are being made accordingly.
Recovery Time	Used for the recovery of delays and preparation for the next trip, time is built into a schedule between arrival at the end of a route and departure of next trip. Recover time per trip should be no less than 10%. Routes with recovery times	Standard is monitored on an on-going basis

	less than 10% should be reviewed for service improvement.	
Route Directness	An index ratio should be applied to measure route directness. To determine the ratio, the deviated distance between two points is divided by the direct distance. When reviewing route directness, high deviation ratio should attract new passengers to the route and not only reduce walking distances for a few.	Standard is monitored on an on-going basis
Introduction of new service	New service should be guaranteed for a minimum of 12 months, and the minimum performance threshold (Table 2) for the class of service should be met at the end of the trial period. Within the trial period, monitoring should occur at 3, 6 and 9 months intervals to ensure targets of 25, 50 and 75 percent (respectively) of the final target value are met. If targets are not being met during the interim period, the route should be re-examined to identify potential change to improve its performance.	Standard to be used on a “go forward” basis
Introduction of modified service	Routes introducing service in new operating periods where routes exist, or modify the existing route should be guaranteed for a minimum of 6 months, with interim monitoring will occur at 2 and 4 months. Interim targets are established at 33 and 66 percent respectively. If the service change is substantial, staff may recommend a longer trial period at the introduction stage of the service.	Standard to be used on a “go forward” basis
TransCab	Regular route services should be considered for conversion to TransCab service if the route’s performance consistently falls below 5 boardings per hour. An area serviced by TransCab should be considered for regular route service when the cost of the TransCab contract reaches 85 percent of providing minimum base service level of a fixed route.	TransCab service is monitored on an on-going basis.

Key Performance Indicators

A key performance indicator (KPI) is a tool by which numerical thresholds and targets are set for a system, its routes and services. Applied with service standards, KPIs can be used to evaluate existing services, and identify efficiency gaps in the transit network.

Three KPIs have been selected to monitor and measure economic, ridership and operational performance.

Economic Performance: The Recovery Cost ratio (R/C %) is the ratio of the fare revenue to the total operating cost, and is expressed in percentages. The Greater Sudbury Transit System currently has a system performance of a 40% R/C which is above average compared to other transit agencies of its population size. It is important to note that commuter areas in general have a low R/C ratio compared to higher density areas, which impacts the overall performance of the system. See Appendix C for the 2014 recovery cost ratio for each of the City's 6 Commuter Routes and the 30 Urban Routes. The overall recovery ratio is 25% for the Commuter Routes and 44% for the Urban Routes.

Ridership Performance: Boarding per vehicle hour by class and time of day is measured against a set of thresholds. This measure can be applied to the system as a whole, for individual routes, or even for portions of a route. Individual routes whose performance is below the minimum boarding per vehicle hour shall be reviewed to identify changes that may improve the route's economic performance. Table 2 outlines the recommended target threshold established by Entra Consulting. See Appendix D for 2014 detailed performance results of all routes by time of day based on these targets.

Table 2 – Boarding Counts per Hour Performance Targets by Class and Time of day

Urban	Time of day	Target Threshold
Weekday AM Peak	Start of service to 10:00 a.m.	15-45
Weekday Midday	10:00 a.m. to 2:30 p.m.	13-40
Weekday PM Peak	2:30 p.m. to 6:30 p.m.	15-45
All service day Evenings	6:30 p.m. to end of service	6-18
Saturday	Start of service to 6:30 pm	7-22
Sunday	Start of service to 6:30 pm	7-22
Total Urban		10-30
Commuter	Time of day	Target Threshold
Weekday AM Peak	Start of service to 10:00 a.m.	10-26
Weekday Midday	10:00 a.m. to 2:30 p.m.	6-18
Weekday PM Peak	2:30 p.m. to 6:30 p.m.	10-26
All service day Evenings	6:30 p.m. to end of service	5-9
Saturday	Start of service to 6:30 pm	5-13
Sunday	Start of service to 6:30 pm	5-10
Total Commuter		6-18

Operational Performance: Schedule adherence is monitored with the AVL system. Data for schedule adherence can be collected by time, weekday and route, allowing for detailed monitoring of the system's performance. A recent analysis was performed of schedule adherence revealing that performance was not meeting standards.

Sunday Service was identified as being the least performing service day, triggering a review of all routes to improve operational performance. In 2015, the following were reviewed and adjustments were made to Sunday schedules accordingly:

- Recovery Time Ratio Review: Routes with less than 10% recovery time were identified, confirming that these routes were causing delays at the downtown terminal.
- Route Patterns: Route patterns were reviewed and adjusted in various ways based on the recovery time ratios.
 - Routes with less than 10% recovery were measured against Route Directness Standards. In areas where Route Directness ratios were high and boarding counts were low, patterns were adjusted so that time could be saved, increasing the recovery time ratio.
 - Routes with low recovery ratios but high boarding counts were merged during peak times with routes having an excess of recovery time.
 - Where permitted on routes with an excess of 10% recovery time, service was added to provide better access to a commercial area, thus increasing customer service.
- Schedule Time Tables: Historical data was retrieved on actual drive time values between scheduled time points during peak hours. Time points were adjusted on all routes to match actual averages during peak time.

Schedule adherence is currently being monitored for all days of the week, and adjusted as necessary. Appendix E represents a 2014-2015 comparison of schedule adherence between April and September for all days of the week. Improvements are noted in schedule adherence, especially during Weekdays and Sundays. It is important to note that construction in the downtown core has had a negative impact on schedule adherence and coincided with the adjustments made to the schedules in 2015.

Although we will continue to strive for a 90% schedule adherence, we offer real-time information published to the public through mybus.greatersudbury.ca which alleviates the frustration of waiting for a late bus.

Sudbury Transit Reports

Table 3 gives an overview of the types of data which is currently being reviewed by Sudbury Transit Staff on an ongoing basis. These reports can be used to recognize trends and identify areas where service enhancements should be recommended to ensure the most effective allocation of resources to individual routes, and provide quality Transit Service to Greater Sudbury residents.

Table 3: Sudbury Transit Reports

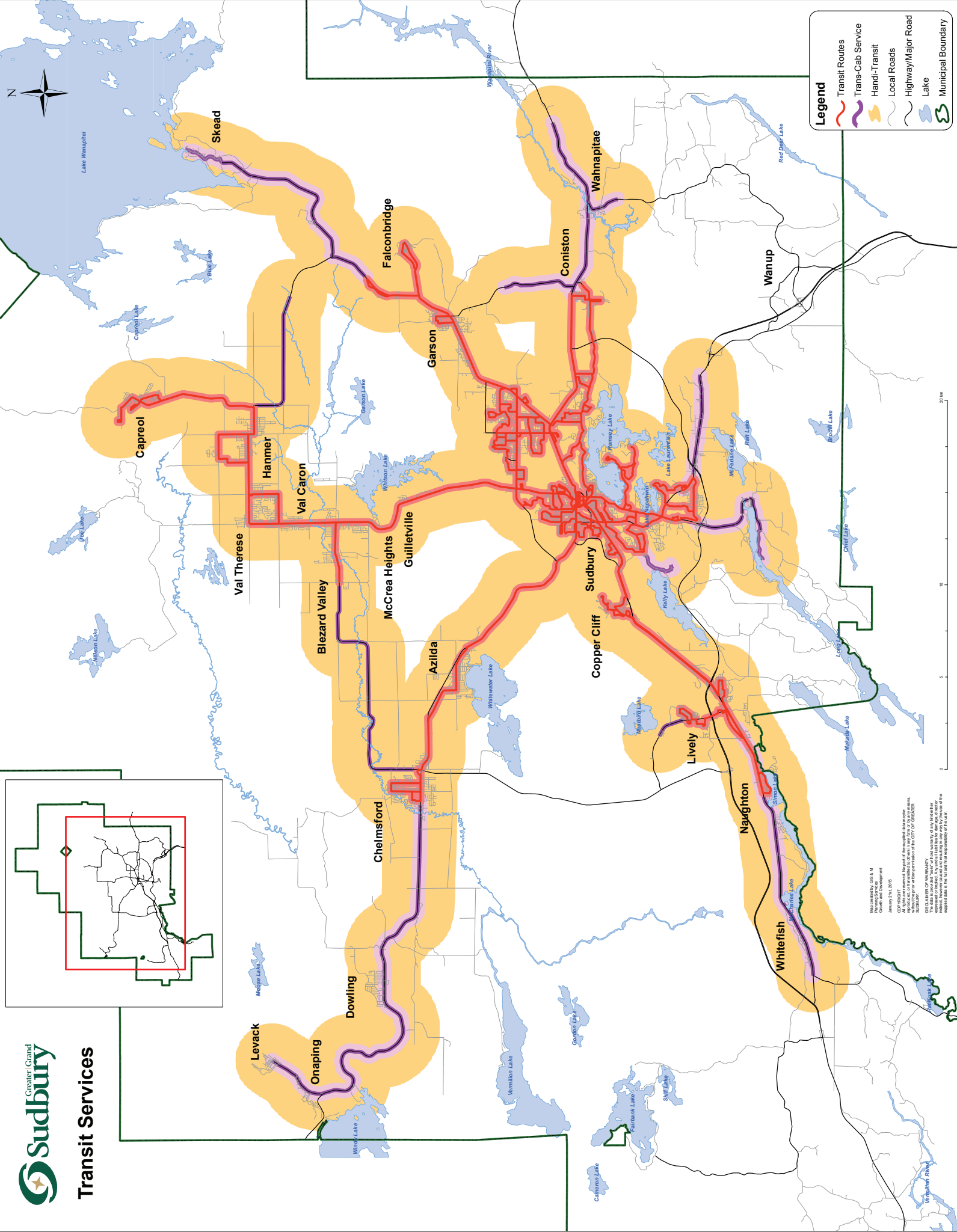
Report Name	Data Reviewed in Report	Annual	Monthly	On-Going
Service Design Standard Reports				
Service Level Information	Service Span, Number of Trips, Frequency and Vehicle Requirement by Route and Service day	X		
Recovery Ratio	Trip times and Recovery Ratio by Route and Service Day	X		
Boarding Threshold Ratio	Percentage of Trips by Threshold Targets, by Route and Service Day.	X		
Fare and Ridership Data	Report of detailed ridership information, fare distribution and operating data on a year to date basis by Route and Service Day.		X	
Key Performance Indicators				
Key Performance Indicator	Annual Economic, Ridership and Operational Key Performance Indicators for Urban and Commuter Routes	X		
Economic & Ridership Performance Indicator	Monthly Economic Performance Indicator (R/C%) and Boarding per Revenue Hours by Route		X	
Schedule Adherence	Schedule Adherence by Route and Service day.	X	X	X
Additional Reports				
CUTA Reports	Statistics submitted to Canadian Urban Transit Association for publication in an annual Transit Fact Book	X		
Shelter Report	Annual Ridership by Stop collected for the purpose of reviewing the performance of shelters, based on the Bus Shelter Policy.	X		
Ridership Comparison	YTD Ridership by Month measured against Previous Year's Ridership Totals.		X	

Route Level Analysis	A detailed performance review of individual routes should be reviewed based on monitored results from monthly and annual reports. From this analysis, service enhancements should be proposed. If a proposal does not require capital budget and there is sufficient operating budget available, it may be implemented in the next service period. If the proposal has insufficient operating budget for implementation, it will be presented by priority to Council for approval.			X
Service Enhancement Monitoring	New service enhancements will be monitored in compliance with Service Design Standards on "Introduction of new service" and "Introduction of modified service".			X

Conclusion

This report provides an overview to the Operations Committee of Greater Transit's Service Design Standards, Key Performance Indicators and reporting/monitoring service review process. These tools will be the foundation for staff to perform a systematic assessment on past and current performance of routes and provide a framework to assess requests for new, modified or extended services.

Staff will continue to review and identify improvements which can be made to the service, which may in turn increase ridership and will report back to the Operations Committee on a regular basis.



BUS SHELTER REQUEST POLICY

INTRODUCTION

This document outlines the criteria which will be used to evaluate potential shelter locations or requests. The point based system identifies and highlights key items which would merit a shelter at a bus stop. These criteria are derived from other transit agency policies and reports from transportation research publications, which outline best-practices in the transit industry.

PREREQUISITES

In order to be considered as a potential location for a bus shelter, the site in question must obtain a minimum of:

- 10 boarding's per Service Day in "Commuter" areas.¹
- 25 boarding's per Service Day in "Urban" areas.²

Stops which do not meet these minimum ridership requirements will not be considered for further analysis.

SELECTION METHODOLOGY

Each year, existing stops and shelters will be evaluated using a point based system to create a list of potential areas of merit and improvement. To maximize cost efficiencies the Transit and Fleet section will work in conjunction with the Roads and Transportation and Engineering and Construction Services sections. Locations identified on the list that are affected by future road construction projects will be prioritized.

In order to be considered as a potential location for a bus shelter, the site in question must obtain a minimum of 60 points.

¹ "TCRP Report #19: Guidelines for the Location and Design of Bus Stops". Rural ridership requirement.

² Ibid. Suburban ridership requirement. Urban ridership requirement is 50 boarding's per day, but due to lack of urban densities the suburban requirement was used.

1. *Ridership*

- a. Ridership is a key element in determining the current use of a bus stop, and will aid in allocating shelters in areas of higher usage. As a result of this, one point will be attributed to each stop for each average boarding per day for Urban locations. Shelters located in Commuter locations will receive 2.5 points for each average boarding per day. For example, if a stop in an Urban area has 40 average boardings per day, that stop will then be attributed 40 points. If a stop in a Commuter area has 10 average boardings, that stop would then be attributed 25 points.

2. *Exposure*

- a. The patrons level of exposure is a key factor in determining the level of priority in shelter placement, the following scale is used to grade the patrons level of exposure:
 - i. Allocate [0] points if the location is perfectly sheltered. For example, there is no exposure to elements whatsoever or there is a large heated shelter near the stop.
 - ii. Allocate [4] point if the exposure is minimal. For example, there is a public or commercial building which can be used by the passengers but access is somewhat limited (in terms of hours, capacity).
 - iii. Allocate [8] points if there are no indoor waiting areas, but a sufficiently large overhang where the wind is blocked by both sides.
 - iv. Allocate [12] points if there is no overhang or indoor waiting areas, or type of shelter, but there are structures which can block the prevailing winds effectively.
 - v. Allocate [16] points if there is no shelter, no overhang, and no buildings blocking the prevailing winds. For example, a residential subdivision.
 - vi. Allocate [20] points if the stop is on vacant, windswept land, and there are absolutely no shelters of any kind.

3. *Transfers*

- a. Transfer zones will be attributed [30] points, due to the potential for longer wait times.

4. *Frequency*

- a. Stops with lower frequency of service will be attributed more points, due to longer wait times between trips. The following scale is used to grade frequency:

- i. 15 minutes [4] points
- ii. 30 minutes [8] points
- iii. 45 minutes [12] points
- iv. 60 minutes [16] points
- v. 60+ minutes [20] points

5. *High Priority Institutions*

- a. Stops which are located in close proximity to a home for ambulant senior citizens, special needs patrons, hospitals or clinics, and if it is used by a reasonable number of seniors/patients will be assigned [30] points.

6. *Additional Factors to Consider*

- a. Available land (no easements required for allocating the shelter).
- b. Line of sight hazards.
- c. Lighting and pad requirements.
- d. Impacts to underground services (utilities, fire hydrants, storm and sewers).
- e. Existing shelters or stops impacted by road construction will receive top priority for evaluation.
- f. New shelters must adhere to any transit specific design requirements in accordance with the Accessibility of Ontarians with Disabilities Act, 2005.

Appendix C
2014 Key Performance Indicators

2014 Commuter Route KPIs		Boarding						KPI					
Route #	Route Name	Mon-Fri	Sat	Sun	Revenue Boarding	Transfers	Total Ridership	Service Hrs	R/C Ratio	Boarding/HR	Early	On-Time	Late
103	Coniston	28488	2519	3798	34592	4278	38870	3752	14%	9	23%	52%	25%
303	Garson/Falconbridge	49113	5889	5665	60647	6972	67619	4038.15	22%	15	26%	44%	30%
701	Lively	48742	4931	5407	59080	7148	66228	6335	14%	9	29%	47%	24%
702	Azilda/Chelmsford	120359	13475	8645	142479	16792	159271	6420.5	33%	22	10%	56%	34%
703	Val Caron/Hammer/Capeol	189490	19400	15740	224484	19534	244018	10648.25	31%	21	20%	45%	35%
704	Bleazard/Elmview	44913	4652	-	49567	3378	52945	2878.5	26%	17	26%	49%	24%
Commuter Route Total		481105	50866	39255	570849	58102	628951	34072.4	25%	17	22%	49%	29%

2014 Urban Route KPIs										Boarding				Service Hrs		KPI	
Route #	Route Name	Mon-Fri	Sat	Sun	Revenue Boarding	Transfers	Total Boarding	R/C Ratio	Boarding/HR	Early	On-Time	Late					
2	Second Avenue/Shopping Centre	207844	32157	-	240158	27350	267508	8938.5	40%	27	0%	64%	36%				
6	West End	124401	15753	-	140160	24375	164535	4242	49%	33	0%	79%	21%				
7	North End	31871	3302	-	35176	2757	37933	2272.5	23%	15	15%	75%	9%				
12	McKim	36071	5266	-	41337	4124	45461	2272.5	27%	18	0%	86%	14%				
14	Kathleen/College Boreal	168731	15961	-	184739	20315	205054	5120.5	54%	36	2%	72%	26%				
15	Taxation special	4988	-	-	4988	165	5153	125.5	59%	189	2%	80%	18%				
17	Donovan	161006	19142	-	180009	26550	206559	4242	63%	42	2%	83%	16%				
101	Howey/Moonlight	91977	12570	-	104547	12200	116747	4696.5	33%	22	11%	58%	31%				
102	Howey/Third Avenue	34391	-	-	34391	3745	38136	1757	29%	20	11%	64%	25%				
141	Westmount/Shopping Centre	12449	-	-	12449	677	13126	878.5	21%	14	18%	55%	26%				
142	Grandview/Shopping Centre	11520	-	-	11520	907	12427	1004	17%	11	17%	55%	28%				
147	Donovan/North End/Kathleen	9375	1578	19903	30845	4742	35587	2068	22%	15	20%	56%	25%				
181	Paris/Loellien	157369	17544	-	174913	25586	200499	6581.25	40%	27	5%	55%	41%				
182	Ramsey View/Algonquin	132598	18094	-	150709	17687	168396	6176.5	36%	24	29%	50%	21%				
189	Paris/Loellien/Four Corners	13964	2068	22445	38471	4527	42998	2068	28%	19	5%	56%	38%				
241	Howey/Moonlight/Shopping Centre	11113	2107	20924	34144	3953	38097	2068	25%	17	19%	55%	26%				
300	Lasalle/Madison/Cambrian	21656	3668	38244	63538	7025	70563	1931.25	49%	33	38%	43%	19%				
301	Lasalle/Madison	406851	62080	-	468964	59022	527986	9999	70%	47	10%	57%	33%				
302	Lasalle/Cambrian	285307	41368	-	326692	25655	352347	8458	58%	39	12%	64%	24%				
304	Lasalle/Shopping Centre	17430	-	-	17430	1216	18646	753	35%	23	33%	36%	31%				
400	Cambrian Express	11464	-	-	11495	2116	13611	690.25	25%	17	22%	71%	7%				
401	Barrydowne/Cambrian	422539	45817	-	472920	69896	542816	11249	63%	42	13%	63%	24%				
402	Barrydowne/Shopping Centre	-	-	21480	18095	1959	20054	488	55%	37	23%	42%	36%				
403	Barrydowne/Madison	20322	-	-	20322	1555	21877	1004	30%	20	18%	52%	30%				
500	University via Paris	299028	4890	-	330436	18286	348722	15964.5	31%	21	12%	60%	28%				
501	Regent/University	196108	35551	-	285279	16324	301603	9588.4	44%	30	31%	57%	11%				
502	Regent/University/Four Corners	12455	4503	24850	40983	3192	44175	2037.5	30%	20	7%	54%	39%				
503	University/South End	4409	5546	-	8651	18	8669	338	38%	26	10%	81%	9%				
640	WestEnd/Gatchell/Coppercliff	8066	1845	16798	28215	5250	33465	2007	21%	14	17%	55%	28%				
819	Copper/Four Corners	180945	23069	-	204036	20715	224751	6605	46%	31	4%	52%	43%				
940	Gatchell/Copper Cliff	154711	15578	-	170323	20762	191085	6667.75	38%	26	17%	67%	16%				
Urban Route Total		3250959	389457	164644	3885935	432651	4318586	132291.9	44%	29	14%	61%	25%				
System Total		3732064	440323	203899	4456784	490753	4947537	166364.3	40%	23	18%	55%	27%				

Appendix D

Boarding Counts per Hour Performance Targets by Class and Time of day

Weekday Commuter Route Threshold Index

Thresholds	AM Peak	Base	PM Peak	Evening	After 10PM
Above	>26	>18	>26	>9	>9
Average	10 to 26	6 to 18	10 to 26	5 to 9	5 to 9
Below	10	6	10	5	5

2014 Weekday Commuter Route Boarding per Service Hour

Route#	AM Peak	Base	PM Peak	Evening	After 10PM
103	8	6	7	4	3
303	16	11	12	7	3
701	13	12	13	7	3
702	37	26	34	18	6
703	58	33	61	26	11
704	9	15	14	6	

Weekday Urban Route Threshold Index

Thresholds	AM Peak	Base	PM Peak	Evening	After 10PM
Above	>45	>40	>45	>18	>18
Average	15 to 45	13 to 40	15 to 45	6 to 18	6 to 18
Below	15	13	15	6	6

2014 Weekday Urban Route Boarding per Service Hour

Row Labels	AM Peak	Base	PM Peak	Evening	After 10PM
2	47	60	71	29	
6	34	34	40	12	
7	7	10	11	5	
12	15	10	9	5	
14	39	47	64	18	
15			20		
17	43	48	51	18	
101	20	29	27	12	
102	22	8	16		
141	11	4			
142			11	3	
147					7
181	40	35	55	21	
182	32	39	43	15	
189					9
241					9
300					17
301	95	113	121	61	
302	78	90	100	36	
304			19	6	
400	13	6			
401	70	126	152	58	
402					
403			18	8	
500	74	101	116	30	
501	51	71	83	42	
502					10
503		12	12	5	
640					7
819	49	39	65	22	
940	50	31	55	15	

Appendix D

Boarding Counts per Hour Performance Targets by Class and Time of day

Saturday Commuter Route Threshold Index

Thresholds	AM Peak	Base	PM Peak	Evening	After 10PM
Above	>13	>13	>13	>9	>9
Average	5 to 13	5 to 13	5 to 13	5 to 9	5 to 9
Below	5<	5<	5<	5<	5<

2014 Saturday Commuter Route Boarding per Service Hour

Row Labels	AM Peak	Base	PM Peak	Evening	After 10PM
103	3	2	4	2	2
303	7	8	6	5	2
701	4	5	7	5	3
702	11	17	17	13	7
703	11	23	26	21	12
704	4	7	7	4	

Saturday Urban Route Threshold Index

Thresholds	AM Peak	Base	PM Peak	Evening	After 10PM
Above	>22	>22	>22	>22	>18
Average	7 to 22	7 to 22	7 to 22	7 to 22	6 to 18
Below	7<	7<	7<	7<	6<

2014 Saturday Urban Route Boarding per Service Hour

Row Labels	AM Peak	Base	PM Peak	Evening	After 10PM
2	23	51	58	24	
6	12	24	25	11	
7	2	6	5	3	
12	8	8	7	5	
14	11	27	28	11	
17	18	34	29	11	
101	10	19	18	10	
147					8
181	17	24	27	14	
182	13	27	30	14	
189					10
241					10
300					18
301	45	94	96	51	
302	36	69	74	29	
401	22	66	93	48	
501	21	54	65	39	
502					14
503		25	11	5	
640					9
819	20	33	38	17	
940	14	23	23	12	

Appendix D

Boarding Counts per Hour Performance Targets by Class and Time of day

Sunday Commuter Route Threshold Index

Thresholds	AM Peak	Base	PM Peak	Evening	After 10PM
Above	>10	>10	>10	>10	>9
Average	5 to 10	5 to 10	5 to 10	5 to 10	5 to 10
Below	5<	5<	5<	5<	5<

2014 Sunday Commuter Route Boarding per Service Hour

Row Labels	AM Peak	Base	PM Peak	Evening	After 10PM
103	3	5	3	2	3
303	6	7	6	5	2
701	3	7	7	5	2
702	4	9	9	8	5
703	8	16	18	15	7

Sunday Urban Route Threshold Index

Thresholds	AM Peak	Base	PM Peak	Evening	After 10PM
Above	>22	>22	>22	>22	>18
Average	7 to 22	7 to 22	7 to 22	7 to 22	6 to 18
Below	7<	7<	7<	7<	6<

2014 Sunday Urban Route Boarding per Service Hour

Row Labels	AM Peak	Base	PM Peak	Evening	After 10PM
147	15	29	27	14	5
189	23	29	31	19	10
241	16	25	25	17	11
300	24	48	55	34	13
402		31	43	16	
502	19	32	37	21	8
640	12	22	21	16	7

Appendix E

Schedule Adherence : April to September 2014 vs 2015

