

BRIEFING

Subject: Summer Transportation Overview



Presented to: Council

Date: November 9, 2015

Submitted by: Adrian Field

Agenda #:

This report is submitted for council's information.

BACKGROUND

Reason for Report

To provide council with an overview of:

- actions taken in 2015 to alleviate traffic congestion and parking shortfall
- data gathered in 2015 and trends over previous years.

Summary of Issue

Transportation is one of the seven key themes in council's four-year strategic priorities. The strategic plan states:

“A limited land base and Banff's commitment to being an environmental role model means we cannot build our way out of traffic congestion and lack of parking. Our community must embrace more creative solutions to managing traffic volumes, particularly at peak travel times. We will provide a multi-modal transportation system that is economically and environmentally sustainable and that enhances the lives of residents and the experience of visitors.”

The strategic plan lists (among others) the following strategies:

- Increase mode shift to active transportation
- Maintain parking stall availability downtown
- Maintain, in the short term, travel time delays of less than 30 minutes

As part of the 2013 Transportation Master Plan, traffic counts and modelling of the road system indicated that congestion started to occur when two-way traffic volumes exceeded around 20,000 vehicles per day (vpd) at both entrances combined. A series of council-directed actions, including improvements to traffic signal timings, road layout and parking changes and the implementation of scramble crosswalks, were implemented in 2014. These measures combined increased the congestion threshold to around 24,000 vpd.

For 2015, a number of initiatives to help minimise congestion delays and maximise parking stall availability were carried out. These initiatives included:

- A series of stakeholder meetings to identify actions that key stakeholders (Town of Banff, Parks Canada, major attraction operators, Roam transit, Banff Lake Louise Tourism (BLLT) and others) could take to maximise the efficiency of the available parking and road infrastructure and to promote mode shift to active modes or transit.
- Enhanced data availability from webcams, Roam transit data and traffic monitoring devices.
- Increased weekend coverage and changes to signal timings including increased use of the “green override” to move high volumes of north and south-bound traffic, typically in the summer, weekend afternoons.

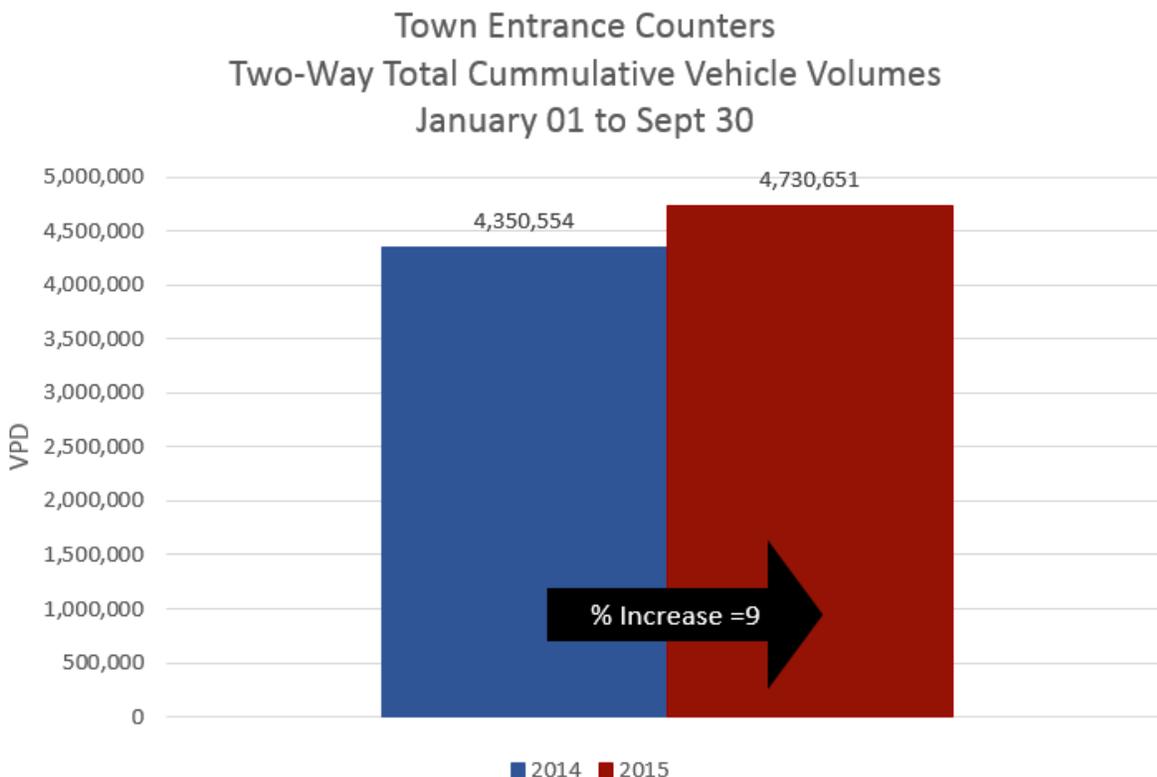
- Enhanced Roam service – free travel from the campground and a doubling of the Sulphur Mountain route.
- Commencement of a new, private shuttle service from downtown to the gondola & upper hot springs.
- Enhancements to parking enforcement including a \$5 charge for the first offence, changes to some of the parking time limits downtown and increased time limit enforcement.
- An enhanced communications plan including distribution of parking and traffic information at the East Gate; extensive online, social and print media campaigns; various commuter challenges; regular alerts to stakeholders on traffic conditions; webcam feed to 511 Alberta, Lake Louise Ski Area, BLLT, and Parks Canada websites; and improved signage at the entrances to town.

The following data was collected for 2015:

Entrance counter data:

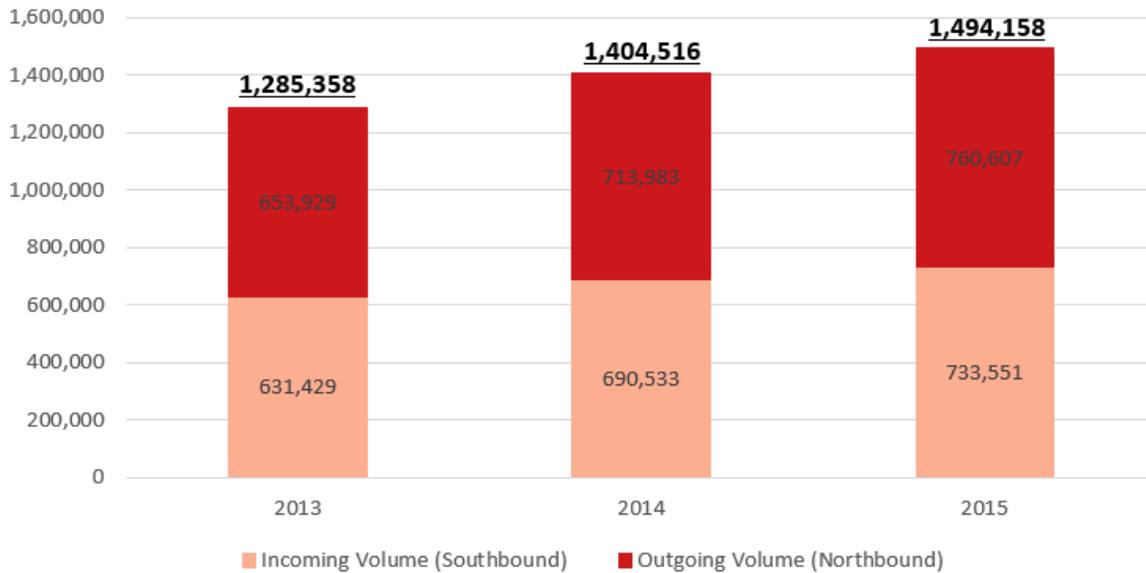
Permanent vehicle counters were installed at the entrances to town in June of 2013. The counts shown below are the total vehicles per day (vpd) for both directions of travel, both entrances, recoded over a 24 hour period.

- From Jan 1 to September 30 the cumulative total vpd increased by 9% from 4.3 million in 2014 to 4.7 million in 2015.

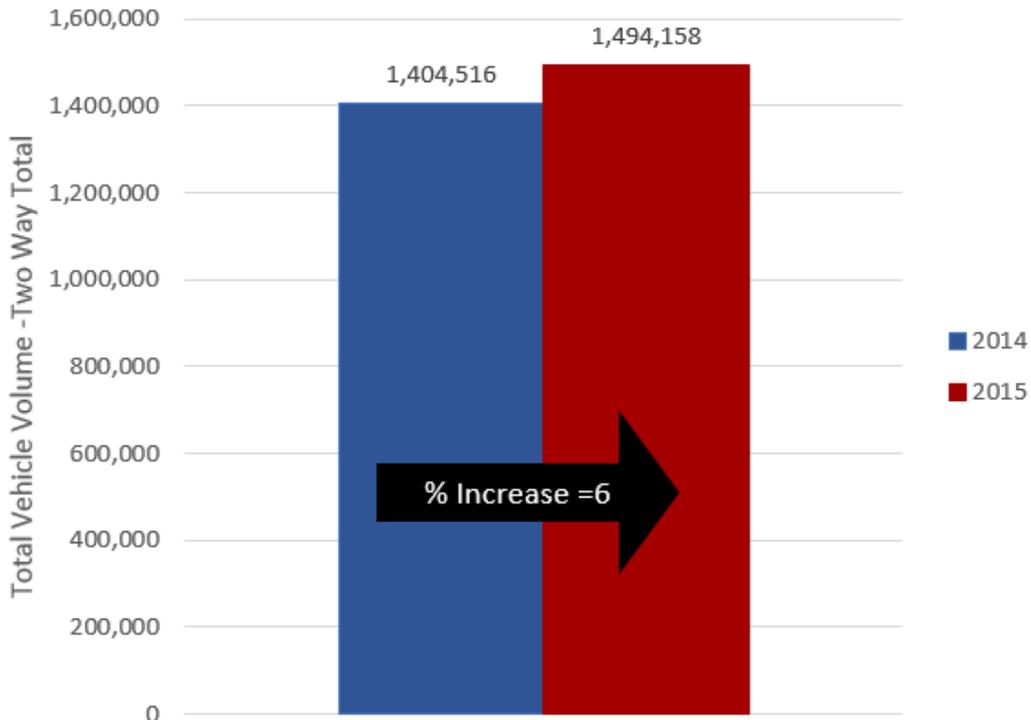


- For July and August combined the total vpd increased by 6% from 1.4 million in 2014 to 1.5 million in 2015.
- Daily average vpd in July and August increased by 6% from 22,653 in 2014 to 24,099 in 2015
- Maximum recorded vpd in July and August increased by 8% from 30,677 in 2014 to 33,096 in 2015.

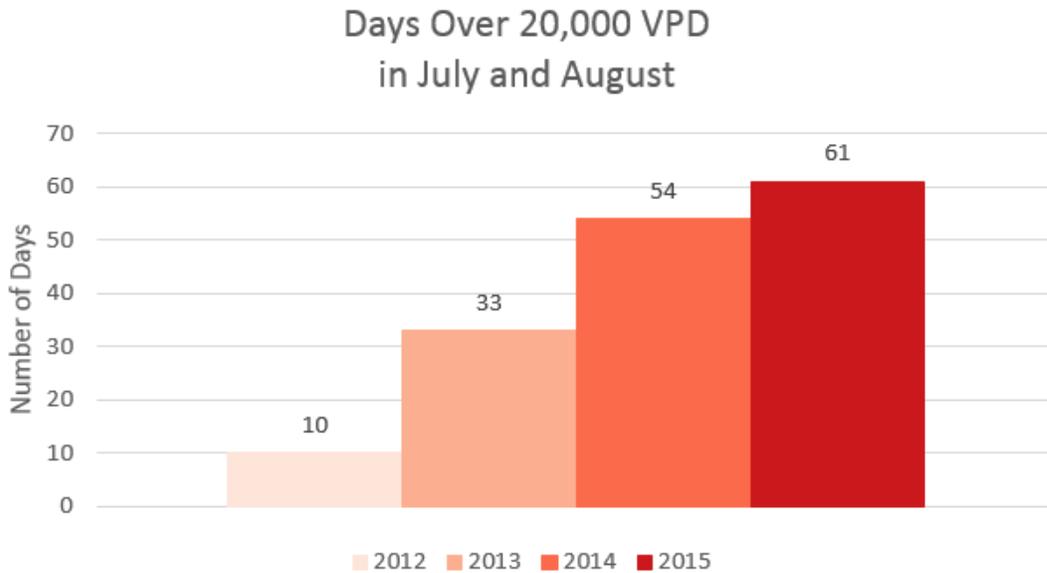
Town Entrance Volumes for July and August



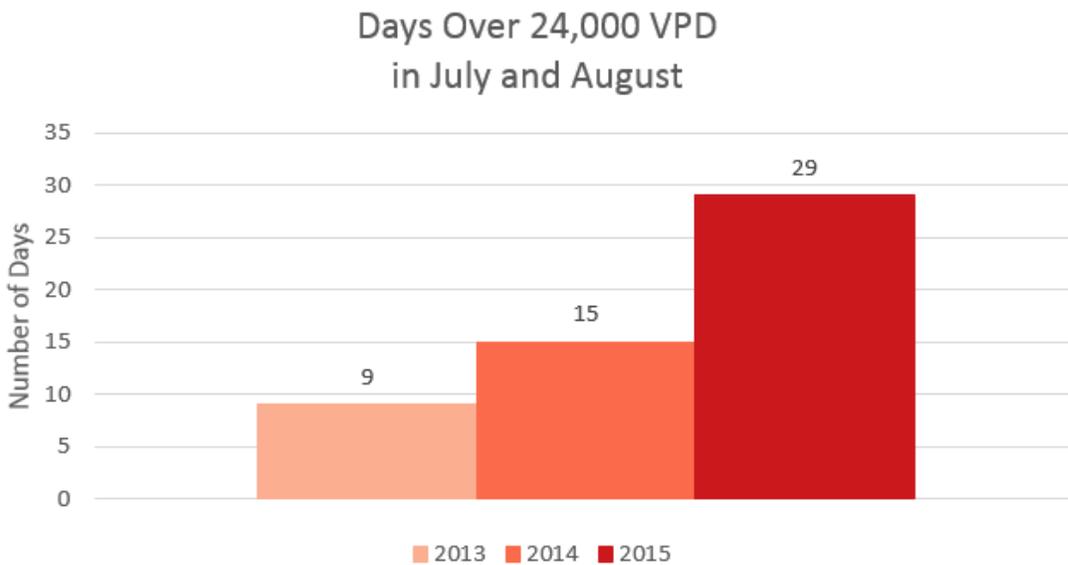
Cumulative Two Way Total For Town Entrance Counters - July and August



- 61 out of the 62 days (98%) in July and August were over the 2013 congestion threshold of 20,000 vpd – an increase of 7 days, 13% over 2014 and nearly double the number of 33 days in summer 2013.



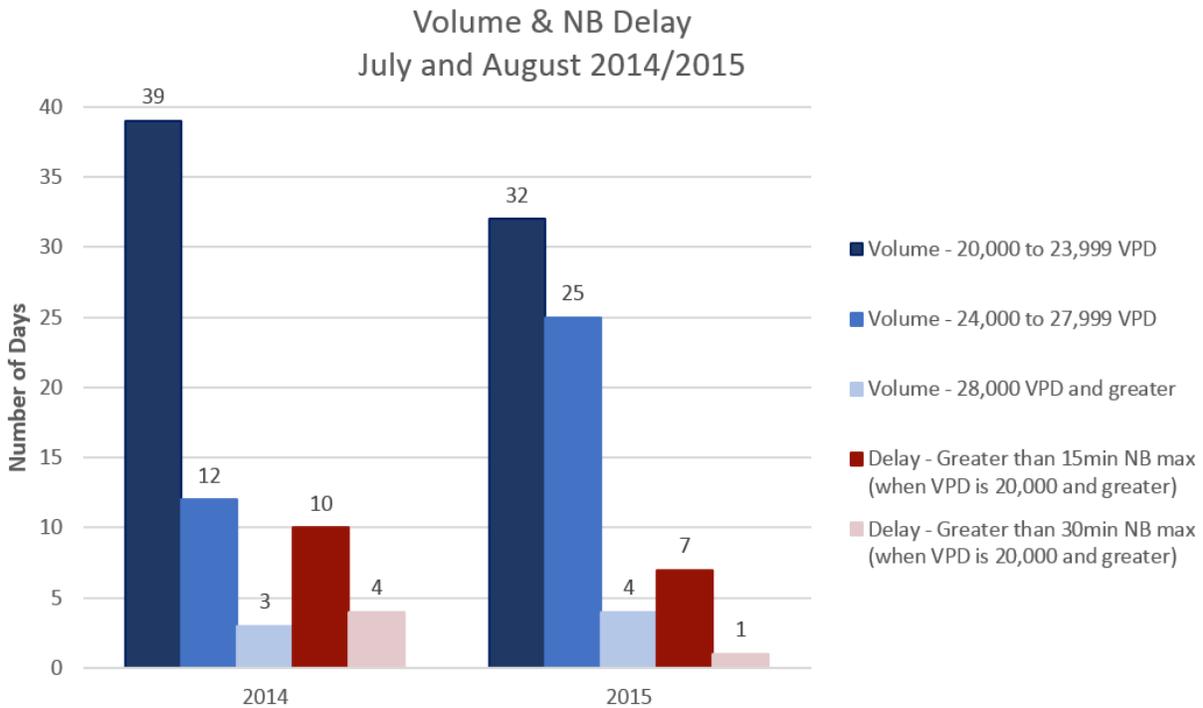
- 29 out of the 62 days (47%) in July and August were over the 2014 congestion threshold of 24,000 vpd – an increase of 14 days, 93% over 2014 and more than triple the number of 9 days in summer 2013.



Delay data:

Travel time delays below are measured using gps devices on the Roam transit buses on route 1 – travelling between the Rimrock Hotel and Rabbit street.

- Delays greater than 15 minutes for north-bound traffic were reduced by 43% from 14 days in July and August 2014 to 8 days in the same period in 2015.
- Delays greater than 30 minutes for north-bound traffic were reduced by 75% from 4 days in July and August 2014 to 1 day in the same period in 2015.
- Southbound delays greater than 15 minutes in July and August remained the same between 2014 and 2015, at 4 days.

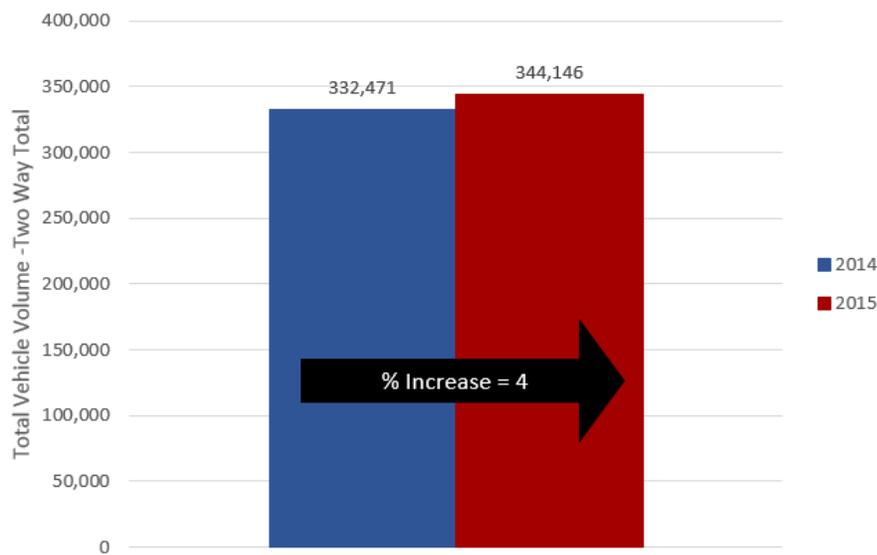


Mountain Avenue counter data:

The Mountain Avenue counter is situated at the town boundary along Mountain Avenue, south of Middle Springs, and records traffic travelling to and from the Rimrock hotel, gondola and upper hot springs. Measurements are for vehicles counted both directions over a 24-hour period.

- For July and August combined, the total vpd increased by 4% from 332,471 in 2014 to 344,146 in 2015.
- Daily average vpd increased by 4% from 5,362 to 5,551 vpd
- The highest recorded volume increased by 8% from 7,812 to 8,336 vpd
- The gondola and the upper hot springs reported visitation levels greater than 2014.

Cumulative Two Way Total For Mountain Ave Counter -
July and August



Brewster shuttle data:

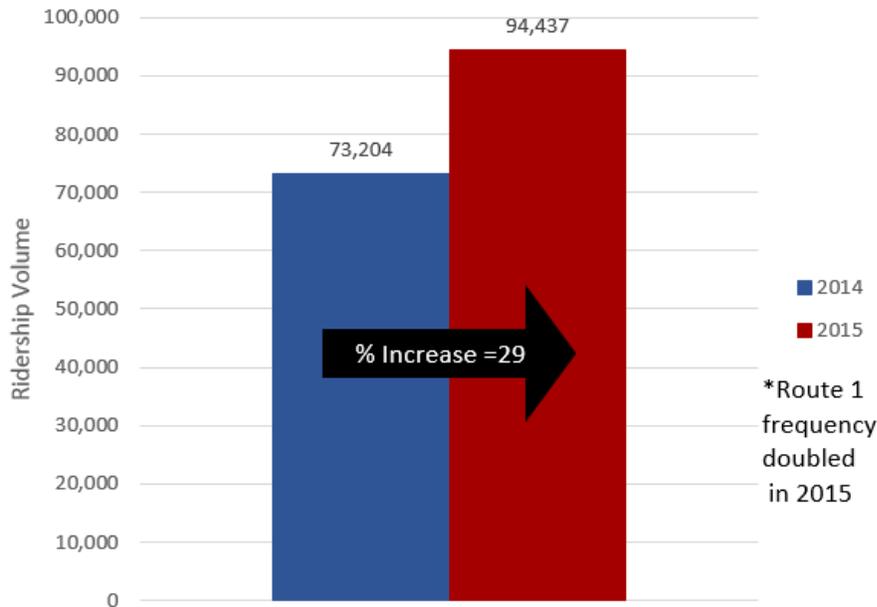
A free shuttle service, operated by Brewster, ran over the summer between Banff Avenue and the gondola and upper hot springs.

- In July and August the service carried a total of 16,319 passengers; an average of 268 passengers per day with a maximum recorded of 617 passengers.

Roam ridership data:

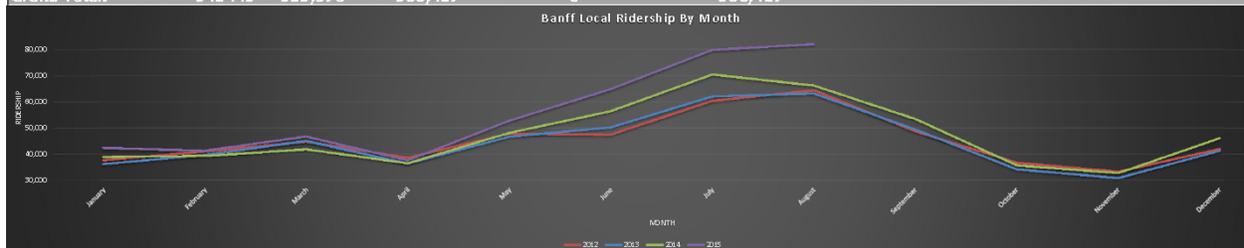
- Route 1 (Banff Avenue to Sulphur Mountain) ridership for July and August increased by 29% from 73,204 in 2014 to 94,437 in 2015. This increase in ridership can likely be attributed to a council-directed service increase on the route to allow a 30-minute service to be provided.
- Average daily ridership on route 1 increased by 29% from 1,180 in 2014 to 1,523 in 2015
- Campground ridership for July and August almost doubled from 4,443 in 2014 to 8,862 in 2015. Free service from the campground was provided for July and August.

Cumulative Roam Ridership - Route 1 - July and August



- Banff local system ridership for all routes combined, January 1 to August 30 increased by 12% from 398,105 riders in 2014 to 447,826 riders in 2015.
- For July and August combined, total ridership increased by 18% from 136,680 riders in 2014 to 161,887 riders in 2015 – an increase of 400 riders per day. For the same period, entrance count volumes increased by 6% from 2014 to 2015 and this disproportionate increase in transit ridership would suggest a mode shift to transit for a proportion of travel around the townsite and attractions.

Month	Ridership						
	2012	2013	2014	2015	2014 Running Total	2015 Running Total	Running Total Difference
January	37,730	36,302	39,021	42,433	39,021	42,433	3,412
February	41,031	39,738	39,353	41,396	78,374	83,829	5,455
March	44,826	45,039	41,887	46,799	120,261	130,628	10,367
April	38,652	36,510	36,565	37,676	156,826	168,304	11,478
May	47,945	46,739	48,180	52,774	205,006	221,078	16,072
June	47,447	50,267	56,419	64,871	261,425	285,950	24,524
July	60,356	62,089	70,456	79,846	331,881	365,795	33,914
August	64,441	63,224	66,224	82,031	398,105	447,826	49,721
September	48,767	49,512	53,483		451,588		
October	36,818	34,244	35,835		487,423		
November	33,359	30,911	32,820		520,243		
December	42,073	41,403	46,194		566,437		
Grand Total:	543,445	535,978	566,437	0	566,437		



Parking Enforcement data

As is noted in the Summary of Issue, one of the listed strategies to manage traffic is to work to maintain parking stall availability in the downtown core. In the absence of paid parking, a tactic of firm and consistent parking enforcement was proposed to help reduce parking shortfall, and thus better maintain parking stall availability, especially in the highest demand spots.

Parking Tickets

In the summer of 2014 (May 01-Sept 30), bylaw services put more focus on downtown parking enforcement. Vinci Park took over the downtown time-limit enforcement duties from July 15 to September 30.

In the summer of 2015 (May 01- Sept 30), bylaw services implemented a complete electronic handheld parking enforcement system and had the seasonal officers shift the majority of their focus on downtown parking enforcement.

- Time-limit parking tickets increased 30% from 3,313 in 2014 to 4,136 in 2015
- Overall parking tickets increased 14% from 6,419 in 2014 to 7,307 in 2015.
- 2,912 overall parking tickets were issued in 2013.

Repeat Offenders

In 2014, from May 01-Sept 30, all time-limit tickets written were issued free warning (no charge) for the first offence. Second and subsequent offences carried a fine of \$50 with a reduction to \$30 if paid within seven days. In this time period, there were 407 repeat offenders (two or more tickets) based on 6,419 total tickets issued (6% of the tickets issued were to repeat offenders).

In 2015, from May 01-Sept 30, all time-limit tickets were reduced to \$5 for the first offence if paid within 14 days. Second and subsequent offences carried a penalty of \$50 with no reductions offered. Between May 1 and September 30:

- Repeat offenders were reduced from 407 out of 6,419 tickets issued or 6% in 2014 to 342 out of 7,307 tickets issued or 5% in 2015
- Repeat offenders were 172 out of 2,912 tickets issued (6%) in 2013

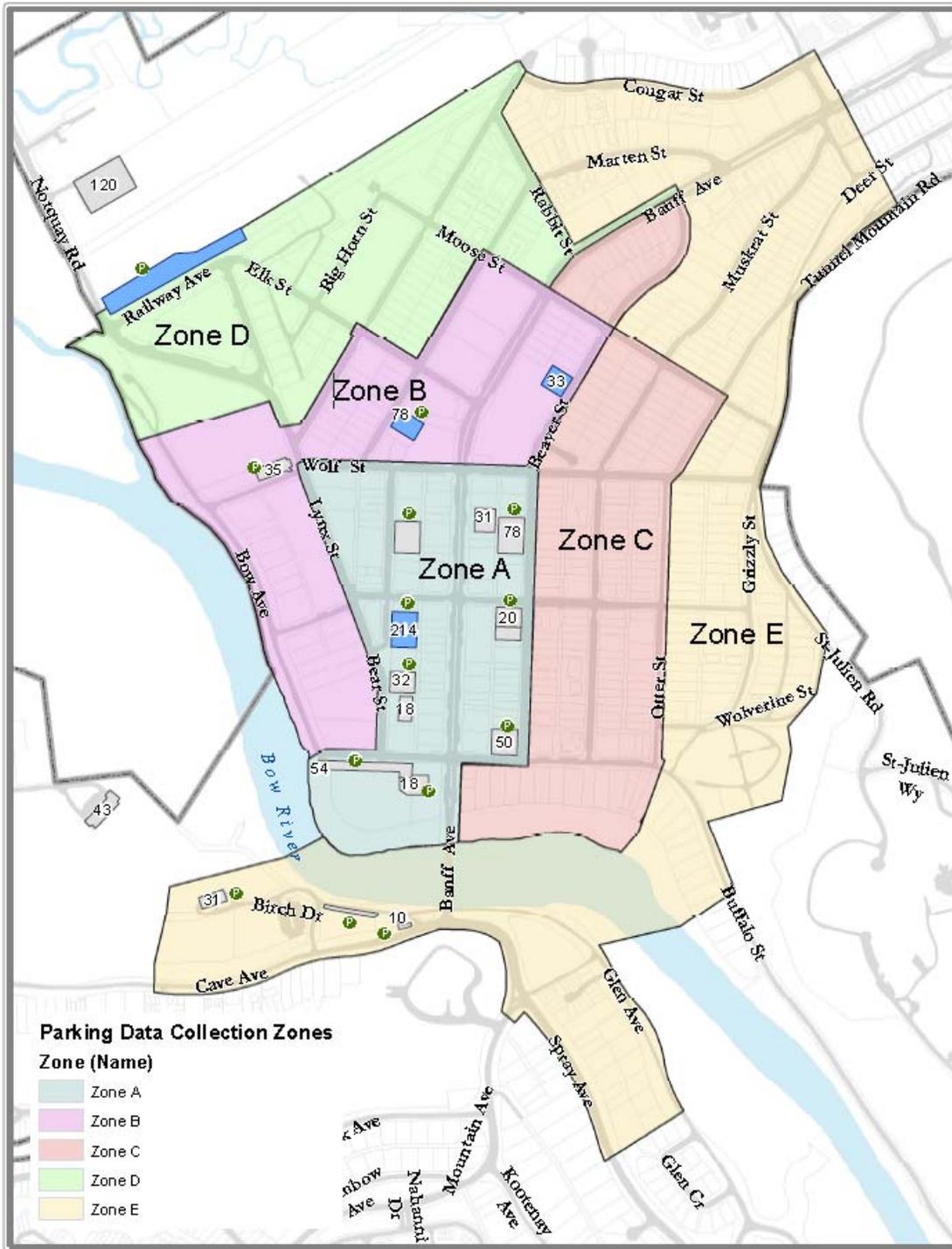
Ticket Appeals

When compared against the total number of tickets for that year, ticket appeals dropped substantially. Between May 1 and September 30:

- Ticket appeals reduced from 447 out of 6,419 tickets issued or 7% in 2014 to 307 out of 7,307 or 4% in 2015
- 346 appeals were received out of the 2,912 tickets issued in 2013 or 12% of the total tickets issued

Parking Data:

To be able to assess parking statistics (such as parking occupancy, turnover, length of stay, shortfall etc.) over time, data was collected using the same licence plate recognition methodology employed for the summer of 2014. Data was collected for the weeks of July 3 to July 9, 2015 and July 30 to August 5, 2015. The first week in August is selected for the year-to-year comparisons shown below – July 28 to August 3 2014 is compared with July 30 to August 5, 2015; in both cases a Thursday to Wednesday in the first week of August. The full report is included in Attachment #1.



- For the first week in August 2014 compared with the same week in 2015:
 - Entrance counts for the week increased by 12% from 169,925 in 2014 to 189,576 vpd in 2015.
 - In Zones A, B & C (within 10-minute walk of downtown) 2014 vs 2015:
 - Average vehicles parked per day decreased by 10% from 4,990 to 4,476
 - Average occupancy decreased from 66% to 60%
 - Peak occupancy decreased from 92% to 87%

- Hours when parking occupancy exceeded 90% decreased from 2 to 0
 - Length-of-stay decreased by 14 minutes or 12% from 110 to 96 minutes
 - Parking shortfall decreased from 80 to 1 (the 31 shortfall reported for 2014 was an average for all of July and August).
- In the five downtown lots that were part of the user-pay parking trial in 2014:
 - Average occupancy decreased from 71% to 70%
 - Length-of-stay decreased by 20 minutes or 18% from 106 to 86 minutes
 - Hours per week when occupancy exceeded 90% decreased from 28 to 20
- For movements within Zones A, B & C in the first week of August 2014 vs 2015:
 - Bear Street 200 block surface lot:
 - Average occupancy decreased from 76% to 73%
 - Length-of-stay decreased by 32 minutes, 29% from 111 to 79 minutes
 - Hours per week when occupancy exceeded 90% decreased from 34 to 15
 - Bear Street parkade:
 - Average occupancy increased by 8% from 50% to 58%
 - Length-of-stay decreased by 13% – 14 minutes from 108 to 94 minutes
 - Hours per week when occupancy exceeded 90% increased from 2 to 8
 - Bow Avenue 100 block:
 - Average occupancy increased by 12% from 56% to 68%
 - Length-of-stay decreased by 13% – 13 minutes from 100 to 87 minutes
 - Hours per week when occupancy exceeded 90% increased from 8 to 25
- The 10% reduction in the number vehicles parked downtown relative to the 12% increase in entrance counts would suggest that a greater proportion of vehicles entering the townsite are being parked outside the downtown zones.
- Parking occupancy increased in both the Bear Street parkade (by 8%) and on Bow Avenue (by 12%) – areas that have been under-used in the past.
- Parking duration reduced relative to 2014, possibly as a result of increased enforcement and the removal of user-pay parking in five lots downtown; some motorists chose to stay longer in those lots when user-pay parking was in effect in 2014 than they did in 2015 with an enforcement system in place.

Parking Data Analysis - Town of Banff

Data Collected for the Week of: July-28-14 to August-03-14

SPECIAL REPORTS		Occupancy				Length of Stay	Turnover
	Stalls #	Avg (%)	Peak	Peak (time)	HRS => 90%	Avg (minutes)	Avg (times)
User Paid Pilot	245	71%	100%	2:00:00 PM	28	106	4.18
Zone A On-Street	276	77%	100%	2:00:00 PM	15	93	5.54
Zone A Off-Street	559	65%	100%	3:00:00 PM	4	101	3.33
Zone A Total	835	68%	98%	3:00:00 PM	5	98	4.06
Zone B On-Street	351	62%	89%	2:00:00 PM	2	106	2.31
Zone B Off-Street	34	82%	100%	2:00:00 PM	28	109	3.75
Zone B Total	385	66%	90%	2:00:00 PM	4	107	2.44
Zone C Total	360	60%	86%	2:00:00 PM	0	178	1.83
Zone A,B,C Total	1580	66%	92%	2:00:00 PM	2	110	3.16

Parking Data Analysis - Town of Banff

Data Collected for the Week of: July-30-15 to August-05-15

SPECIAL REPORTS		Occupancy				Length of Stay	Turnover
	Stalls #	Avg (%)	Peak	Peak (time)	HRS => 90%	Avg (minutes)	Avg (times)
User Paid Pilot	245	70%	100%	14:00	20	86	3.85
Zone A On-Street	276	71%	92%	13:00	3	83	4.42
Zone A Off-Street	559	66%	99%	14:00	13	86	3.20
Zone A Total	835	68%	95%	14:00	8	85	3.58
Zone B On-Street	351	49%	76%	14:00	0	95	2.26
Zone B Off-Street	34	77%	100%	13:00	25	80	4.10
Zone B Total	385	51%	76%	14:00	0	93	2.43
Zone C Total	360	54%	82%	14:00	0	149	1.82
Zone A,B,C Total	1580	60%	87%	14:00	0	96	2.88

Private stall parking data

Occupancy counts were carried out for private stalls in Zone A in the weeks of August 30 to September 5 and July 3 to 9 between 2pm and 4pm. Stall counts and occupancy are provided for stalls that were able to be accessed by Town staff and where the designated use is for parking. Approximately 50 stalls in Zone A were not available for counting or were being used for storage or other purposes.

- A total of 597 useable private stalls were identified in zone A.
- Average occupancy for the week of August 30, 2015 was 23% leaving an average of 460 stalls available for use. Parking data gathered previously in public stalls shows that peak occupancy is around 2pm; for the week of July 30 to August 5 peak occupancy for the public stalls in Zone A was 95%, recorded at 2pm.
- Below grade stalls were generally less well utilised with average occupancy of 18% below grade and 28% above grade.

Private Stalls in Zone A	Stalls	Count on Aug 30	Count on Aug 31	Count on Sept 1	Count on Sept 2	Count on Sept 3	Count on Sept 4	Count on Sept 5	Average occupancy	Average stalls available
Above grade										
Total above grade	309	114	145	173	166	151	125	159	28%	223
Below grade										
Total below grade	288	49	85	102	115	95	101	109	18%	237
Total	597	163	230	275	281	246	226	268	23%	460

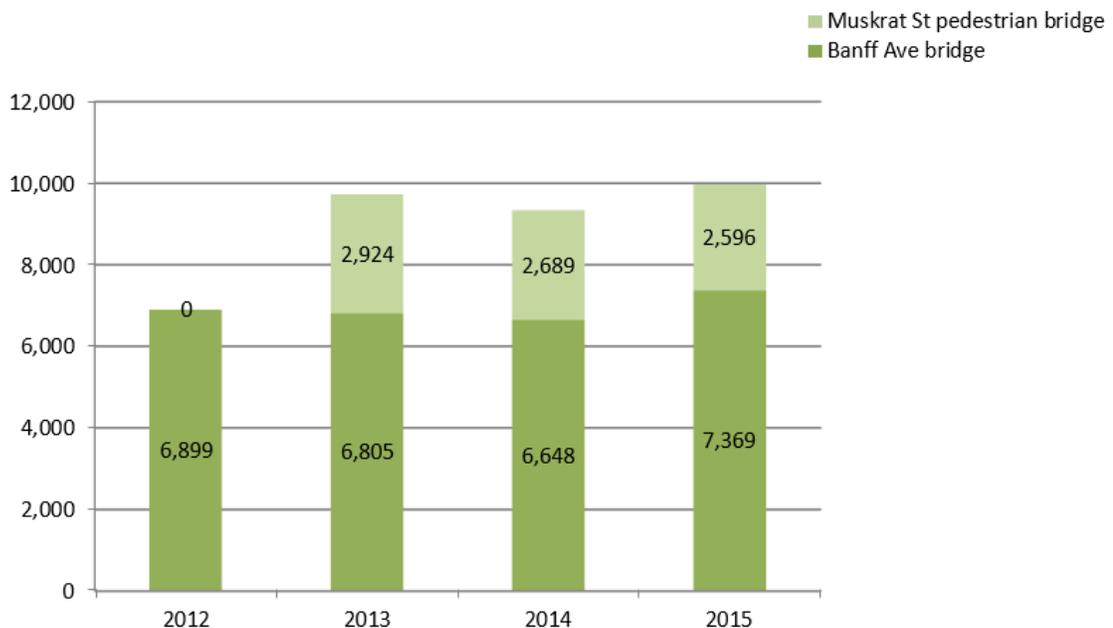
- Stall counts for the week of July 3 to 9, 2015 showed identical results with 23% overall occupancy, 28% occupancy above grade and 18% below grade.

Private Stalls in Zone A	Stalls	Count on July 3	Count on July 4	Count on July 5	Count on July 6	Count on July 7	Count on July 8	Count on July 9	Average occupancy	Average stalls available
Above grade										
Total above grade	309	115	139	133	122	193	180	144	28%	224
Below grade										
Total below grade	288	66	78	107	104	116	98	100	18%	236
Total	597	181	217	240	226	309	278	244	23%	460

Pedestrian Movements:

- Total pedestrian river crossings increased by 7% from an average of 9,337 per day for July and August of 2014 to an average of 9,965 per day in the same period in 2015.
- Of the 9,965 crossings per day, 7,369 crossings occurred on the vehicle bridge and 2,596 were on the pedestrian bridge.

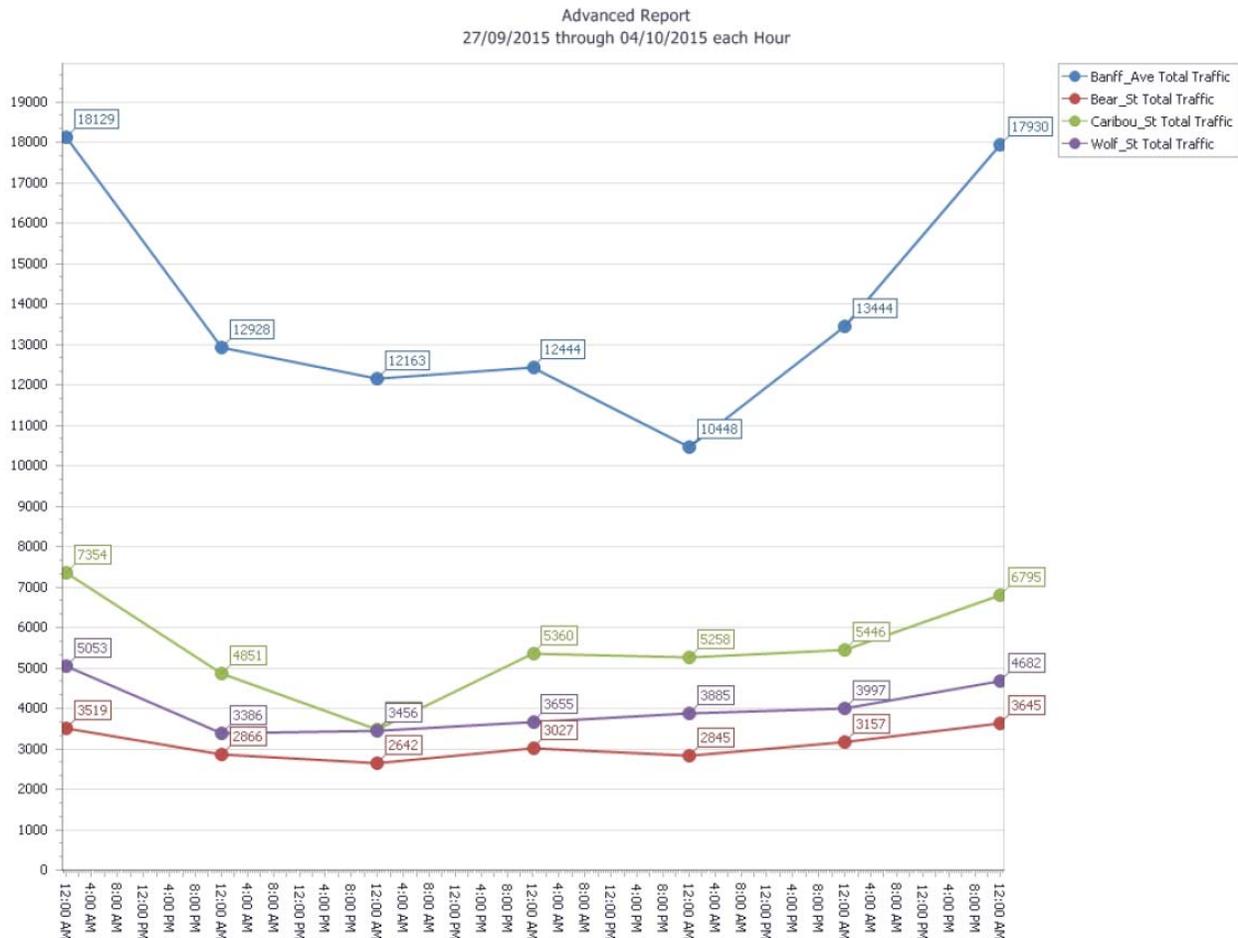
Average daily Pedestrian crossing for July and August (combined)



- Pedestrian volumes on Bear Street and on Banff Avenue were monitored via overhead pedestrian counters throughout the summer. The counts showed that Bear Street saw 22%

of the pedestrian volumes of Banff Avenue in congested scenario compared to 17% in 2012 (as counted during the development of the Transportation Master Plan). Multiple factors may influence pedestrian routes and it is difficult to prove that the Woonerff is directly related to the increase.

- In September, two pedestrian counters were added on Wolf Street and Caribou Street between Banff Avenue and Bear Street. The average pedestrian volumes from October 4 to October 17 show that Caribou Street sees approximately 40% of the pedestrians volumes compared to Banff Avenue, Wolf Street, 29% and Bear Street, 22%. A sample of the data available is shown below. Counters were not installed in 2014 but this data will be useful to identify trends in pedestrian movements over time.



Communications Data

In the summer of 2015, an extensive communications plan, targeted at increasing awareness of congestion and parking issues and promoting mode shift away from the use of private vehicles, was implemented. Between June 1 and August 31 the following data is available:

Website

The traffic cameras page is now one of the most popular pages on the site. These are the top four pages by page view:

- Homepage 448,889
- Johnston Canyon hike 23,749
- Visit Banff 22,743

- Traffic Cams 19,814

Twitter

53 tweets on traffic-related topics generated 66,365 impressions (the number of time users saw the tweets). These include posts about parking, traffic cams, active transit, the Woonerff, the red carpet campaign, bike month, etc. In the same period in 2014, 47 tweets generated 56,590 impressions – an increase of 15% in 2015.

Facebook

20 posts on traffic-related topics similar to Twitter. These posts reached 207,784 Facebook users. 17 posts reached 133,179 users in 2014 – an increase of 56% in 2015.

Summary of Findings

Council, through the four-year strategic plan have provided clear strategic direction with respect to transportation and parking. This direction has resulted in a series of strategies including:

- Partnerships with stakeholders
- Enhanced communications strategies
- Improvements to transit frequency
- Increased parking enforcement
- Increased weekend coverage
- Traffic signal timings adjustments
- Data collection and vehicle travel time data availability
- Active signal management through the green override

An analysis of trends in data between 2014 and 2015 indicates that:

- Entrance counter volumes for 2014 vs 2015 increased by 6% in July and August; 9% from January to September.
- Banff's road network was over the 20,000 vpd threshold for 98% of the days in July and August.
- Days in July and August with northbound delays greater than 15 minutes decreased by 43% from 14 to 8 days despite 93% increase in the number of days with over 24,000 vpd and a 13% increase in days over 20,000 vpd.
- The July and August Mountain Avenue vehicle volume showed an increase of 4%. This value compared with a 6% increase in entrance counter volumes, increased visitation at the attractions in the same period, successes with a private shuttle and a 29% increase in Sulphur Mountain Roam ridership demonstrates a mode shift to sustainable transportation and away from private vehicle use for the journey.
- Roam ridership on all routes increased in July and August by 12% — double that of the entrance counter volume increase in the same period. This would indicate a mode shift to sustainable transportation.
- In the first week of August, vehicles parked downtown decreased by 10% despite an increase in entrance counter volume of 12% in the same period — indicating that a greater proportion of vehicles in 2015 were parked outside the downtown core.
- Under-used stalls in the Bear Street parkade and Bow Avenue were better used in 2015 than they were in 2014.

- The number of time limit parking tickets from May 1 to September 30 increased by 30%, over the same period in 2014; repeat offender numbers decreased by 1% and ticket appeals as a percentage of overall tickets issued decreased by 3%.
- Parking shortfall for the first week in August decreased from 80 stalls in 2014 to 1 stall in 2015.

Data gathered in 2015 and trends from 2014 to 2015 suggest that, despite a cumulative 9% increase in vehicle traffic at the entrance counters, significant improvements have been made with respect to both parking availability and traffic congestion in the peak summer period. Parking shortfall has been reduced from 80 stalls to 1 in the first week of August; and days with greater than 15 minute delay have decreased by 43% despite a 93% increase in the number of days over the congestion threshold of 24,000 vpd.

Traffic delays occur primarily due to a combination of the volume of traffic within the townsite and the finite capacity of the road system. Banff's road system is beyond capacity at peak times and signal timings have been prioritized to maximise the efficiency of vehicle movements travelling north and south through the Buffalo/Banff intersection. The strategies employed in 2015 appear to have had a positive effect on congestion originating at the CIBC, but congestion delays are still apparent with southbound back-ups occasionally occurring to The Fenlands and slow-moving traffic observed in the cross-town movements and along Cave Avenue. Pedestrian movements are also compromised at the Buffalo/Banff intersection with wait times of around four minutes for approximately 250 pedestrians each time a green override is run; with up to 15 cycles per day in the summer this can create a negative experience for visitors and residents crossing through the intersection on foot.

Administration will continue to work with stakeholders to further improve transportation metrics and will continue to develop long-term options for infrastructure changes which would enable increases in visitation without worsening the effects of congestion for residents and visitors.

Response Options

Council have provided valuable strategic direction through the four-year strategic plan and no further direction is required at this time.

Banff Community Plan

- Provide a transportation system that encourages and complements pedestrian movements and cycling.

- Provide a transportation system that enhances the resident and visitor experience.

Council Strategic Priorities

A limited land base and Banff’s commitment to being an environmental role model means we cannot build our way out of traffic congestion and lack of parking. Our community must embrace more creative solutions to managing traffic volumes, particularly at peak travel times. We will provide a multi-modal transportation system that is economically and environmentally sustainable and that enhances the lives of residents and the experience of visitors.

ATTACHMENTS

Attachment # 1 – Vinci parking study 2015

Circulation date: _____

Submitted By: _____
Adrian Field, Manager of Engineering

Reviewed By: _____
Robert Earl, Town Manager