

BRIEFING

Subject: Summer 2016 Transportation Overview



Presented to: Council

Date: October 24, 2016

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Agenda #: 7.5

This report is submitted for council's information.

BACKGROUND

Reason for Report

To provide council with an overview of:

- actions taken in 2016 to alleviate traffic congestion and parking shortfall
- data gathered in 2016 and trends over previous years

Summary of Issues

Transportation is one of the seven key themes in council's four-year strategic priorities. The 2015 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 2016, a number of new private and public initiatives to help minimize congestion delays and maximize parking stall availability were carried out. These initiatives included:

- Train station 12 hour parking was made available by Caribou Properties for visitor parking from June 24th to mid-September (approx. 150 spaces).
- Banff Springs Hotel soccer field parking was made available by Fairmont for visitor parking on July 1st (approx. 300 spaces).
- Smart Parking was added at the Beaver-Buffalo, Bow Avenue and Fenlands parking lots.
- Increased bike parking capacity by 60.
- Expanded Roam Regional service to 30 minute intervals during peak times.
- Expanded Roam Regional and Tunnel Mountain Campground service on July 1st

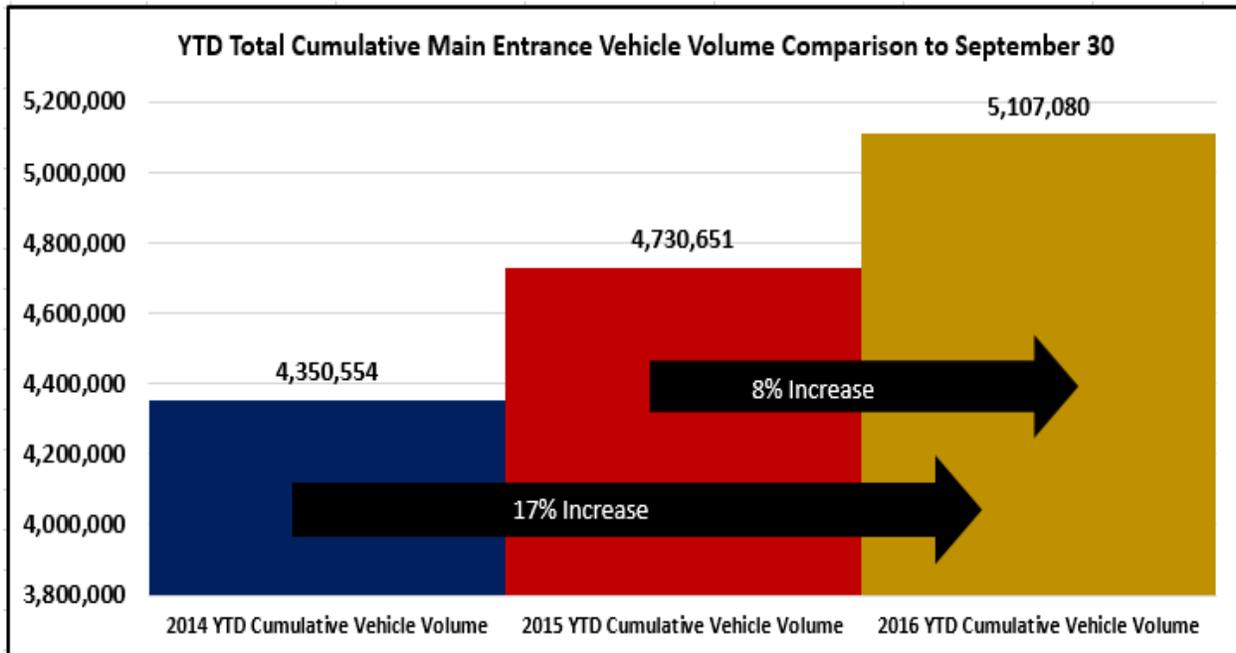
- Revised Roam Route 4 service included Train Station stop (Gondola was dropped from Route 4).
- Expanded private shuttle service from downtown to the Gondola & Upper Hot Springs.
- New private shuttle service from downtown to Mount Norquay.
- Expanded communication with the rollout of the Traffic Dashboard to provide visitors and residents with a one stop source for cross-town travel times, parking spaces and traffic webcams.
- Enhanced data availability from additional webcams and traffic monitoring devices.
- Addition of a new vehicle counter on the Bow River Bridge.
- Expanded green override coverage on weekdays to move high volumes of north and south-bound traffic, typically in the afternoons and early evenings, in order to maintain northbound travel time delays of less than 15 minutes.

The following data were collected for 2016:

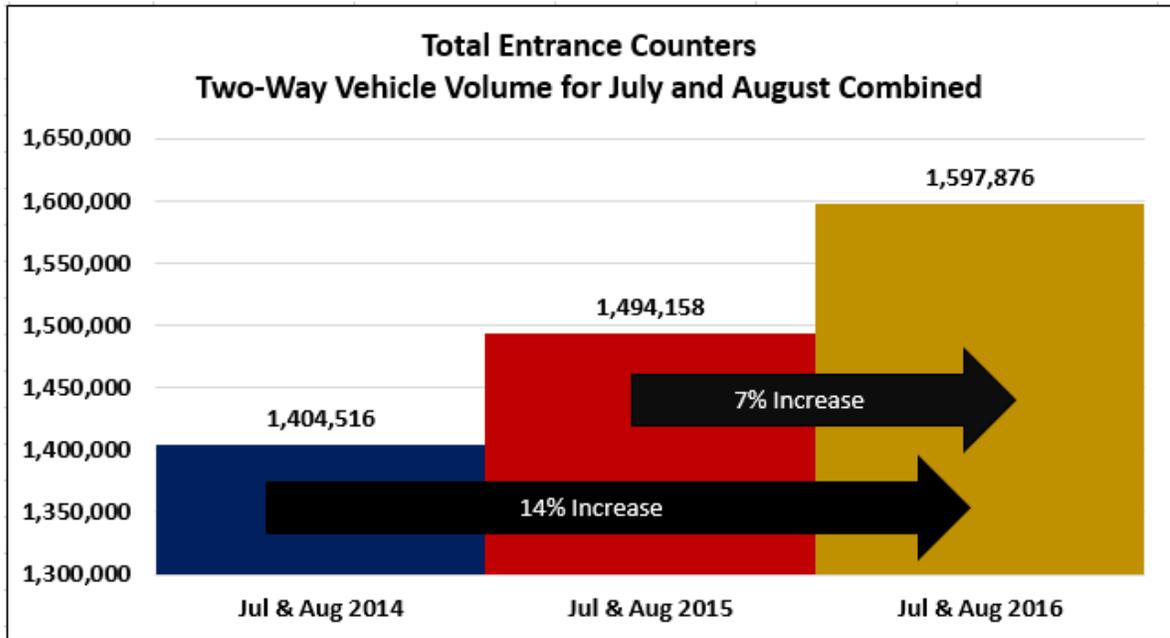
ENTRANCE COUNTER DATA

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, recorded over a 24 hour period.

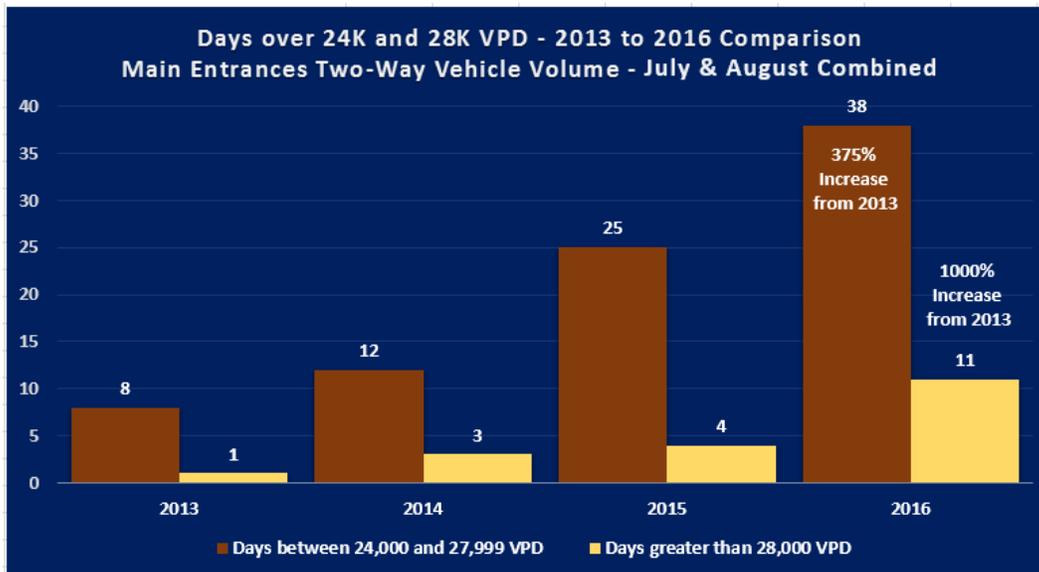
- From Jan 1 to September 30 the cumulative total VPD increased by 8% from 4.7 million in 2015 to 5.1 million in 2016.



- For July and August the total VPD increased by 7% from \$1.5 million in 2015 to 1.6 million in 2016.
- Daily average VPD in July and August increased by 7% from 24,099 in 2015 to 25,772 in 2016.
- Maximum VPD in July and August decreased by 5% from 33,096 in 2015 to 31,435 in 2016.



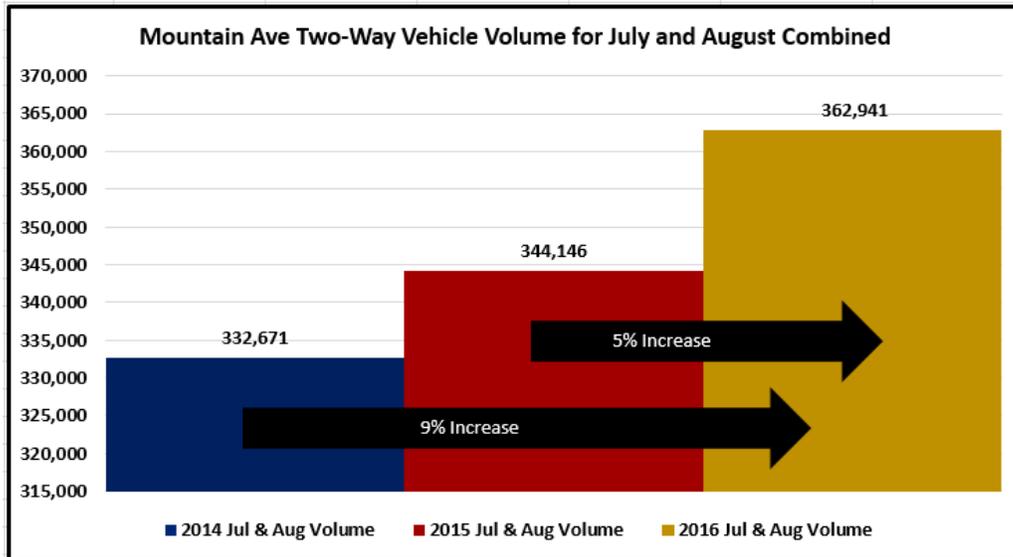
- 49 out of the 62 days (79%) in July and August were over the congestion threshold of 24,000 VPD – an increase of 20 days (69%) from the 29 days recorded in 2015.



MOUNTAIN AVENUE COUNTER DATA

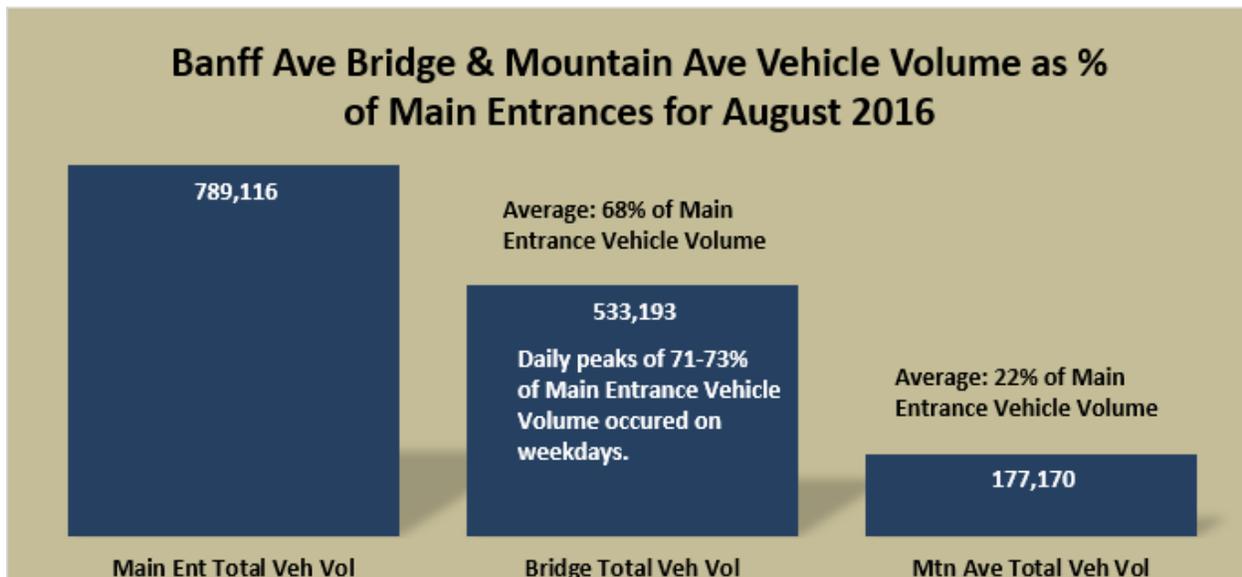
The Mountain Avenue counter is situated at the town boundary along Mountain Avenue, south of Middle Springs, and records traffic travelling to and from The Rimrock Resort, Banff Gondola and Upper Hot Springs over a 24-hour period. VPD volumes are presented as 2-way counts.

- For July and August, total VPD increased by 5% from 344,146 in 2015 to 362,941 in 2016.
- Daily average VPD increased by 5% from 5,551 in 2015 to 5,854 in 2016.
- The highest recorded VPD decreased by 4% from 8,336 in 2015 to 7,981 in 2016.



BANFF AVENUE BRIDGE COUNTER DATA

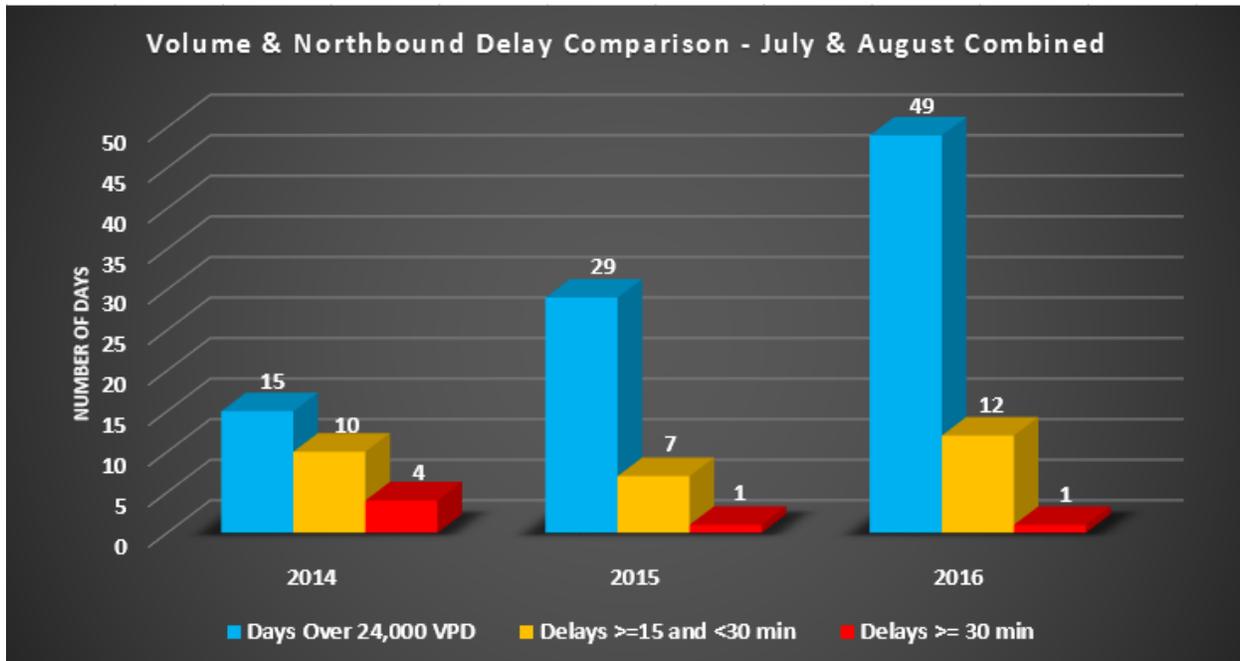
A vehicle counter was installed on Banff Avenue immediately north of the bridge deck in July 2016 in order to record two way vehicle volume over the bridge 24 hours a day. August was the first full month for which data became available.



TRAVEL TIME DELAY DATA

Northbound July and August Delays

- 2016 had 12 days with delays greater than 15 minutes, with afternoon rain being a factor in 6 of those days.
- 2016 had 1 day with a delay greater than 30 minutes, the same as 2015.



Southbound July and August Delays

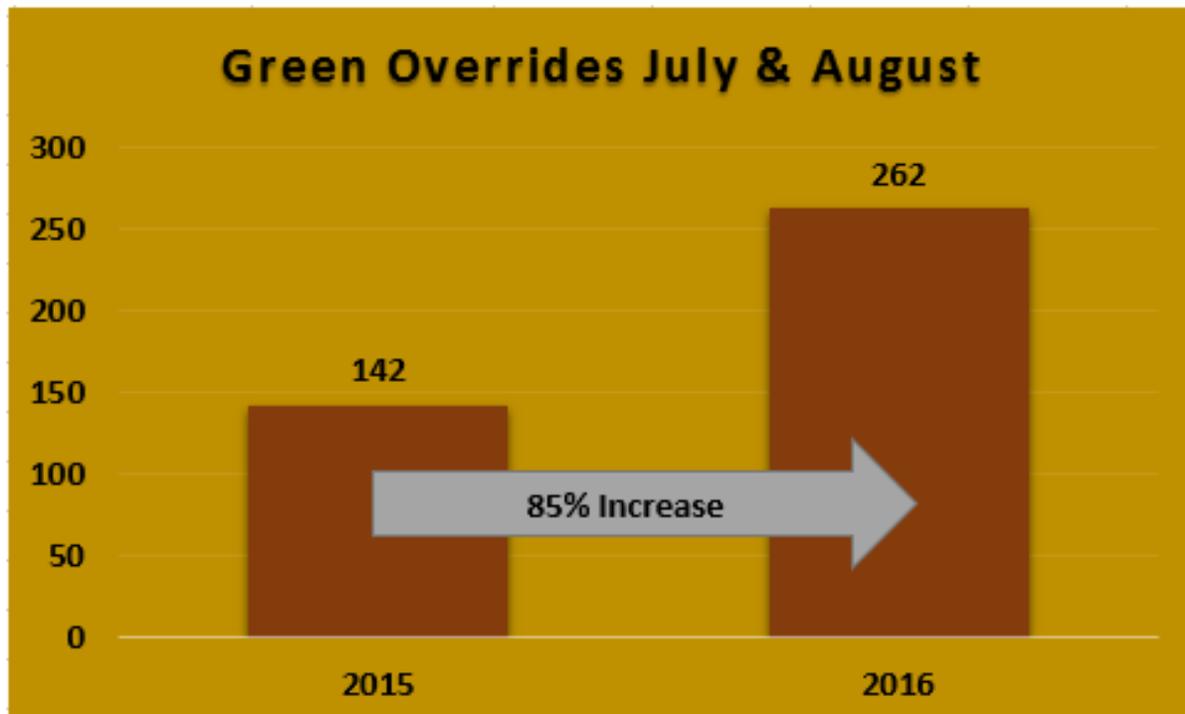
- 2016 had zero days with southbound delays greater than 15 minutes, versus 4 days in 2014 and 2015.

It should be noted that in order to improve the accuracy of travel time and delay data, the collection methodology was changed from Roam bus GPS data in 2014 and 2015 to Traffax data in 2016.

Due to the difference in travel time measurement methods and distance, it is not possible to offer a direct travel time delay comparison between 2016 and previous years.

GREEN OVERRIDES & ADVERSE EFFECTS

Green overrides of the traffic signal patterns at the Banff-Spray and Banff-Buffer intersections increased 85% from 142 overrides in 2015 to 262 overrides in 2016. A green override cycle typically lasts 3 minutes but can be shortened if traffic backlog dissipates.



Banff's road system is beyond capacity at peak times and green overrides may soon be insufficient to effectively mitigate congestion delays.

- On July 2nd, 2016 with 31,242 vehicles moving through Banff's main entrances, Northbound travel time from The Rimrock Resort to the Banff-Buffer intersection remained over 20 minutes for 80% of the time from 14:23 to 18:14 despite 25 overrides being run during that period (an average of 1 override every 10 minutes). Normal travel time on a low traffic volume day for this distance is 6 minutes.
- 8 minutes are required for the East-West traffic signal pattern to return to normal after a green override. If an override is run every 10 minutes, the disruption to East-West traffic barely has time to recover before the next disruption, and as can be seen in the photograph below, sometimes cannot recover, resulting in backups on Lynx Street and Norquay Road as far as the Highway 1 off ramp.
- On August 2, 2015 and July 30, 2016, the green override cycles were halted due to Lynx Street and Norquay Road traffic being backed up to the Highway 1 off ramp, which resulted in increased delays on Northbound Mountain Ave and Spray Ave.



Lynx Street traffic backed up due to green overrides on July 2 at 2:08 (31K VPD)

BLUFAX DATA ON LENGTH OF STAY

The Town of Banff uses Traffax traffic monitoring devices called BluFAX. BluFAX sensors are used to collect data from discoverable Bluetooth devices and Wi-Fi devices in vehicles. Additional detail is provided in the attached report but the data indicates that for the period from May 1 to August 31st:

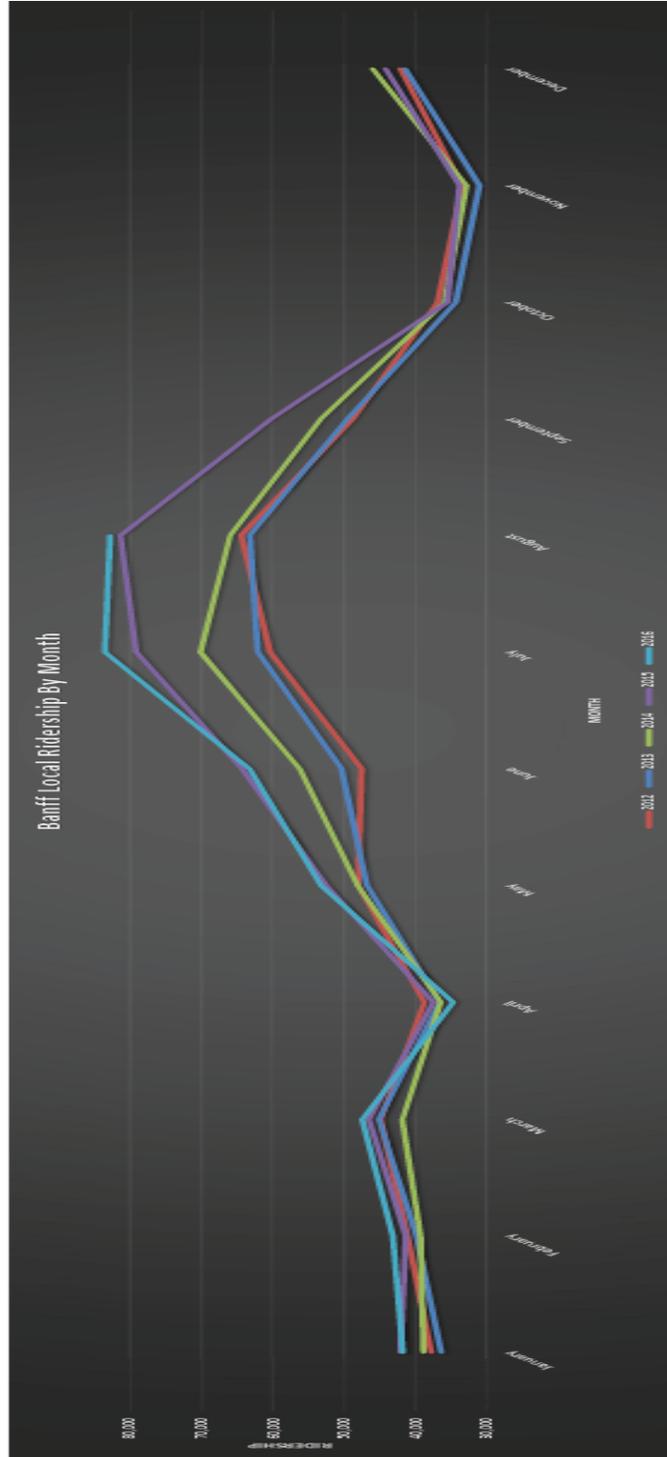
- 51% of devices detected are likely to be day visitors
- 23% of devices detected are likely to be overnight stays
- 15% of devices detected are likely to be locals.
- 44% of day visitors stay for less than 4 hours, 13% stay between 4 and 8 hours.

TRANSIT AND SHUTTLE DATA

Roam Transit Local Ridership

- Banff Local Ridership for July and August combined increased by 3.6% from 160,572 in 2015 to 166,434 in 2016 for a daily average of 2,684 riders.

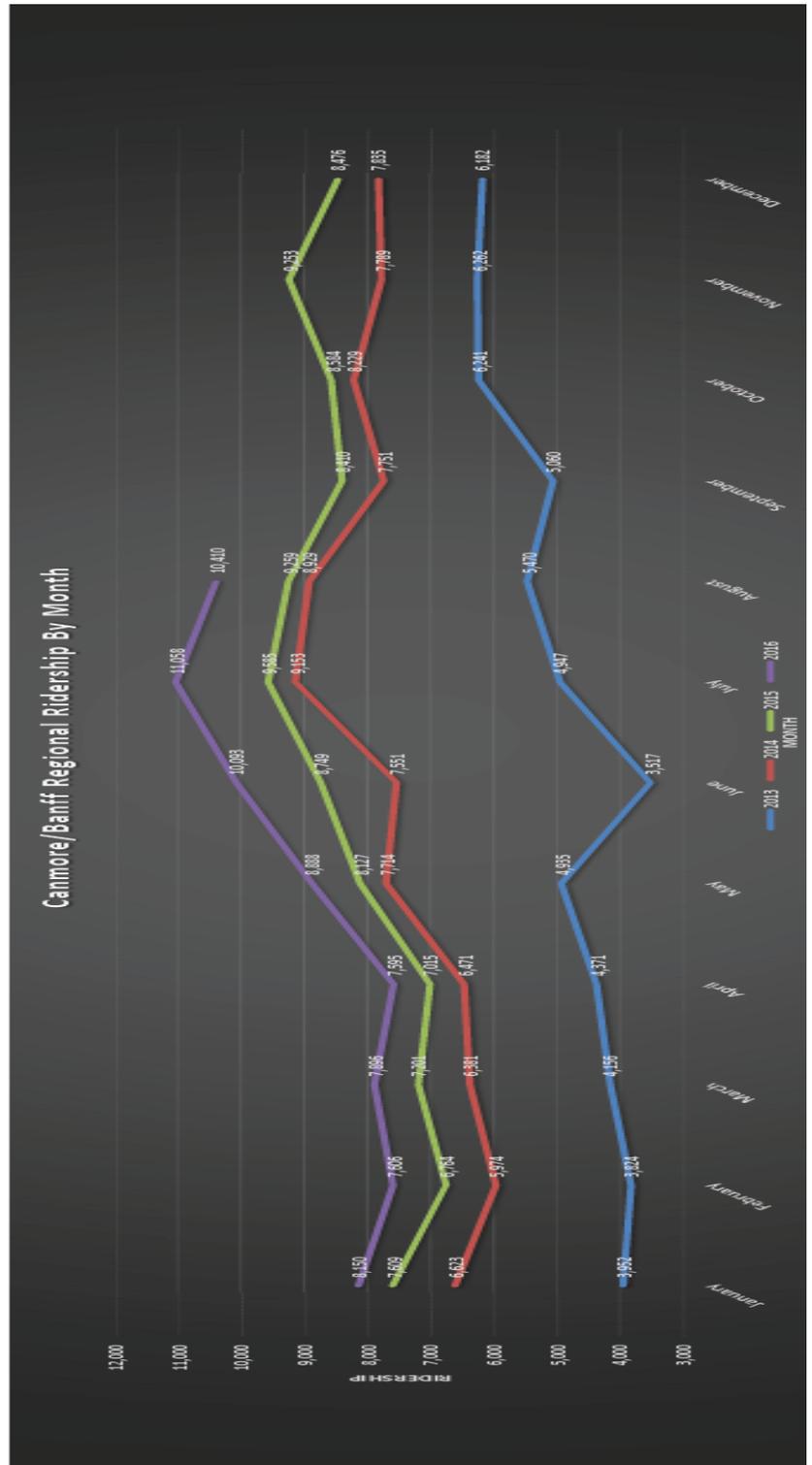
Ridership										
Month	2012	2013	2014	2015	2016	2015 Running Total	2016 Running Total	Running Total Difference	2015 to 2016 Monthly Difference	2015 to 2016 Monthly % Difference
January	37,730	36,302	38,787	41,973	41,692	41,692	41,692	-280	-0.7%	
February	41,031	39,738	39,184	41,240	43,106	83,213	84,798	1,585	1,865	4.5%
March	44,826	45,039	41,733	46,484	47,442	129,697	132,240	2,543	998	2.1%
April	38,652	36,510	36,396	37,483	34,603	167,179	166,842	-337	-2,880	-7.7%
May	47,945	46,739	48,062	52,462	53,248	219,641	220,090	449	786	1.5%
June	47,447	50,267	56,228	64,295	63,260	283,936	283,350	-586	-1,035	-1.6%
July	60,356	62,089	70,162	79,171	83,580	363,107	366,930	3,823	4,409	5.6%
August	64,441	63,224	65,942	81,401	82,854	444,508	449,785	5,277	1,453	1.8%
September	48,767	49,512	53,215	60,204	59,711	504,711				
October	36,818	34,244	35,769	35,371	540,083					
November	33,359	30,911	32,776	33,785	573,868					
December	42,073	41,403	46,017	44,156	618,024					
Grand Total:	543,445	535,978	564,270	618,024	449,785	618,024	449,785	0	-27.2%	



Roam Transit Regional Ridership

- Banff Regional Ridership for July and August combined increased by 14% from 18,844 in 2015 to 21,468 in 2016 for a daily average of 346 riders.

RIDERSHIP							
Month	2013	2014	2015	2016	2016 Running Total	2016 Running Total	2015 to 2016 Monthly % Difference
January	3,932	6,623	7,609	8,150	8,150	541	7.1%
February	3,824	5,974	6,764	7,606	14,373	1,383	12.4%
March	4,156	6,381	7,201	7,896	21,574	2,078	9.7%
April	4,371	6,471	7,015	7,995	28,589	2,658	8.3%
May	4,935	7,774	8,127	8,888	36,716	3,419	9.4%
June	3,517	7,551	8,749	10,093	45,465	4,763	15.4%
July	4,947	9,153	9,585	11,058	55,050	6,236	15.4%
August	5,470	8,929	9,259	10,410	64,309	7,387	12.4%
September	5,060	7,751	8,410		72,719		
October	6,241	8,229	8,584		81,303		
November	6,262	7,789	9,253		90,556		
December	6,182	7,835	8,476		99,032		
Grand Total:	58,917	90,400	99,032	71,696	302,150	28,465	11.1%



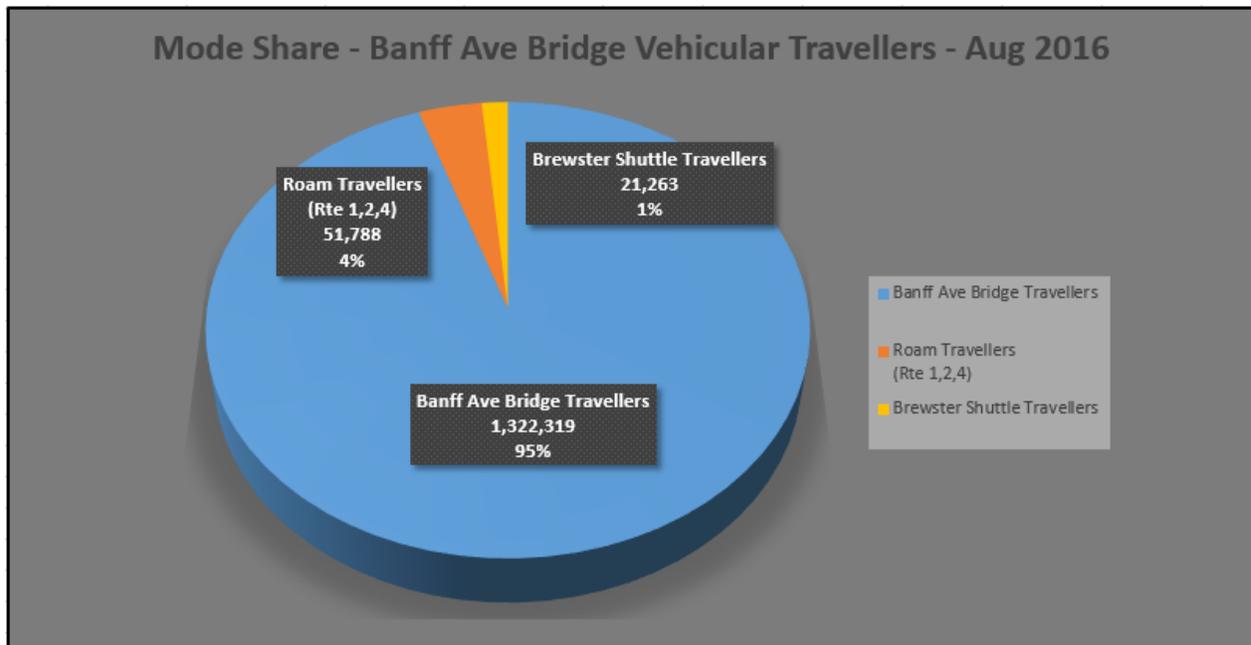
Private Shuttles

Brewster operated their free shuttle service over the summer with ridership increasing 257% from 16,319 in 2015 to 42,018 in 2016 for a daily average of 677 riders.

- Service enhancements for 2016 included:
 - Service frequency doubled between Banff Avenue and the Gondola and Upper Hot Springs.
 - Additional shuttle between the Fairmont Banff Springs and the Gondola on July 30th, 31st and Aug 1st.
 - Buses were wrapped in a bright green logo advertising “Free Shuttle to Gondola”
- Mount Norquay operated a free shuttle service between downtown Banff and the North American Lodge, carrying a total of 3,055 passengers in July and August combined.

Banff Avenue Bridge Ridership Mode Share

- Roam Local Transit and Brewster Shuttle ridership combined represented 5% of the Total Travellers crossing the Banff Avenue Bridge in August 2016.



PARKING ENFORCEMENT DATA

As is noted in the Summary of Issues, 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. The following data was collected for the period May 01 – September 30 from 2013 to 2016:

Parking Tickets

- Time-limit parking tickets issued decreased by 20% from 4,136 in 2015 to 3,313 in 2016.
- Overall parking tickets issued decreased 8% from 7,307 in 2015 to 6,722 in 2016.
- 6,419 overall parking tickets were issued in 2014, and 2,912 in 2013.
- Illegal parking tickets issued (for parking too close to junctions, hydrants, parking backwards etc) increased by 51% from 2,093 in 2015 to 3,180 in 2016.

Repeat Offenders

- In 2016, the number of repeat offenders increased to 373 (5.5%) of 6,722 tickets issued, from 342 (5%) of 7,307 tickets issued in 2015.
- In 2015, 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. In this time period, the number of repeat offenders decreased to 342 (5%) of 7,307 tickets issued from 407 (6%) of 6,419 tickets issued in 2014.
- In 2014, 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 (6%) based on 6,419 total tickets issued.
- In 2013, there were 172 repeat offenders (6%) out of 2,912 tickets issued.

Ticket Appeals

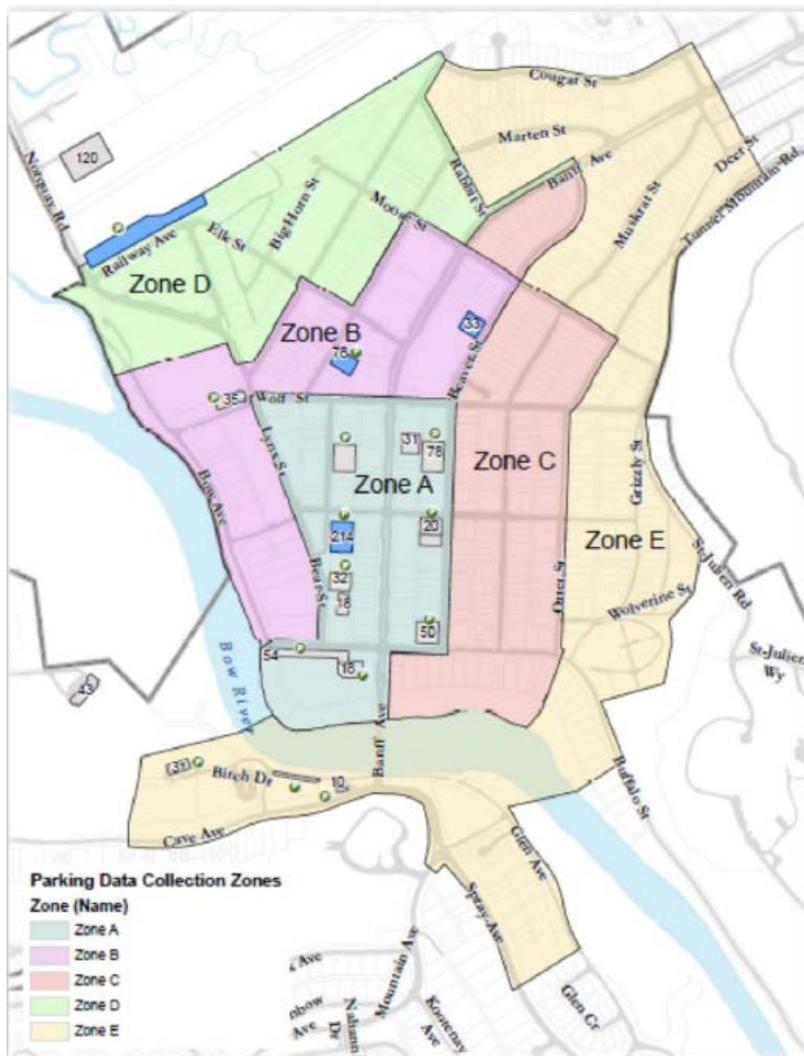
- In 2016, ticket appeals decreased to 261 (3.9%) of 6,722 tickets issued from 307 (4%) of 7,307 tickets issued in 2015.
- In 2015, ticket appeals decreased to 307 (4%) out of 7,307 tickets issued from 447 (7%) of 6,419 tickets issued in 2014
- 346 (12%) appeals were received out of the 2,912 tickets issued in 2013

PARKING DATA

To be able to assess parking statistics over time (such as parking occupancy, turnover, length of stay, shortfall etc.), data was collected by Indigo Park Canada Inc. (formerly Vinci Parking Services) using the same licence plate recognition methodology employed in the summers of 2014 and 2015. Data collected during the week of July 28 to August 3, 2016 is used for the year-to-year comparisons with July 30 to August 5, 2015 (Friday to Thursday in the 1st week of August in both cases). Main Entrances vehicle volume between the two comparative weeks increased by 2% from 189,576 in 2015 to 193,811 in 2016. The full report is included in Attachment #1.

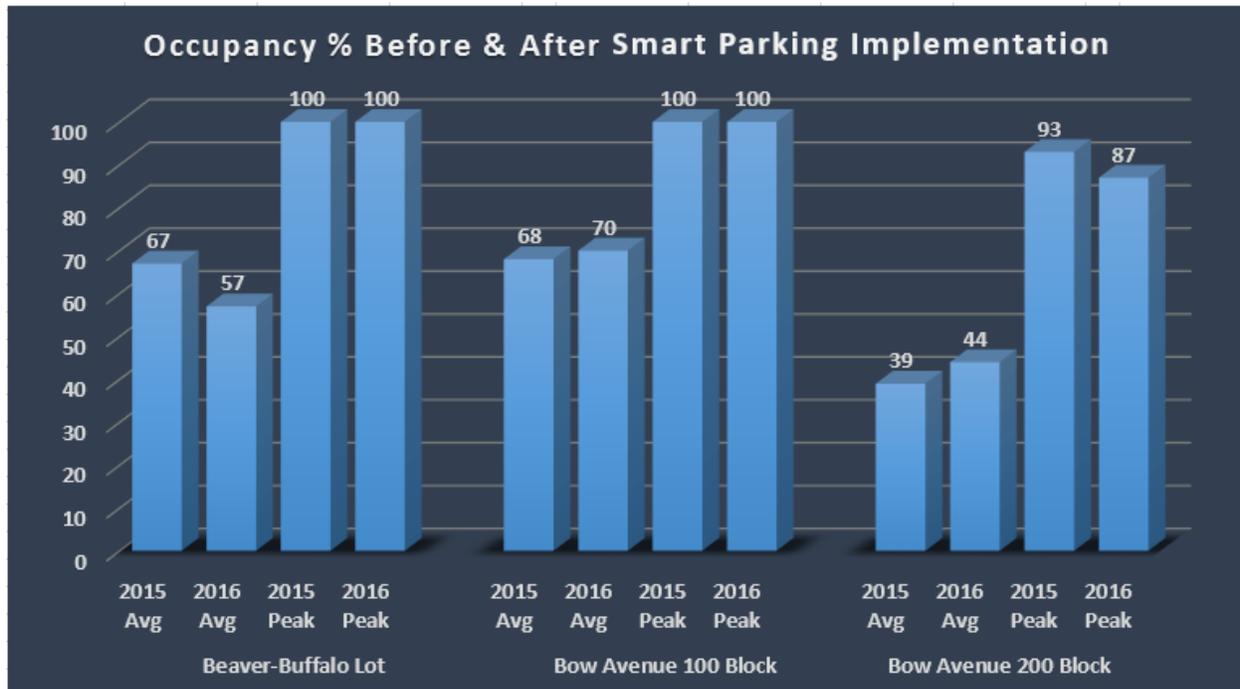
In Zones A, B & C (within a 10-minute walk of downtown) July 30 to August 5, 2015 vs July 28 to August 3, 2016:

- Average vehicles parked per day increased by 1.6% from 4,476 to 4,548
- Average occupancy increased from 60% to 61%
- Peak occupancy decreased from 87% to 83%
- Hours when parking occupancy exceeded 90% remained at 0
- Length-of-stay increased by 11 minutes or 11% from 96 to 107 minutes
- Parking shortfall changed from a deficiency of 1 to a surplus of 62.



Occupancy Before and After Smart Parking Implementation July 30 to August 5, 2015 vs July 28 to August 3, 2016:

- Smart Parking was implemented in 4 additional parking lots prior to July 1st, Beaver-Buffalo Lot, Bow Ave North and South, and the Fenlands.
- Increases in average occupancy of 2% for the 100 Block of Bow Avenue and 5% for the 200 block were recorded for 2015 vs 2016.



- Fenlands average occupancy for the week of July 28 to August 3, 2016 was 6%, and peak occupancy was 25%. Occupancy data was not collected prior to 2016.

Private Stall Parking Data

Occupancy counts were carried out by the Town of Banff for private commercial stalls in Zone A in the week of July 8-14, 2016 for year-to-year comparison with July 3-9, 2015. Counts were conducted between 2:00pm and 4:00pm. 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.

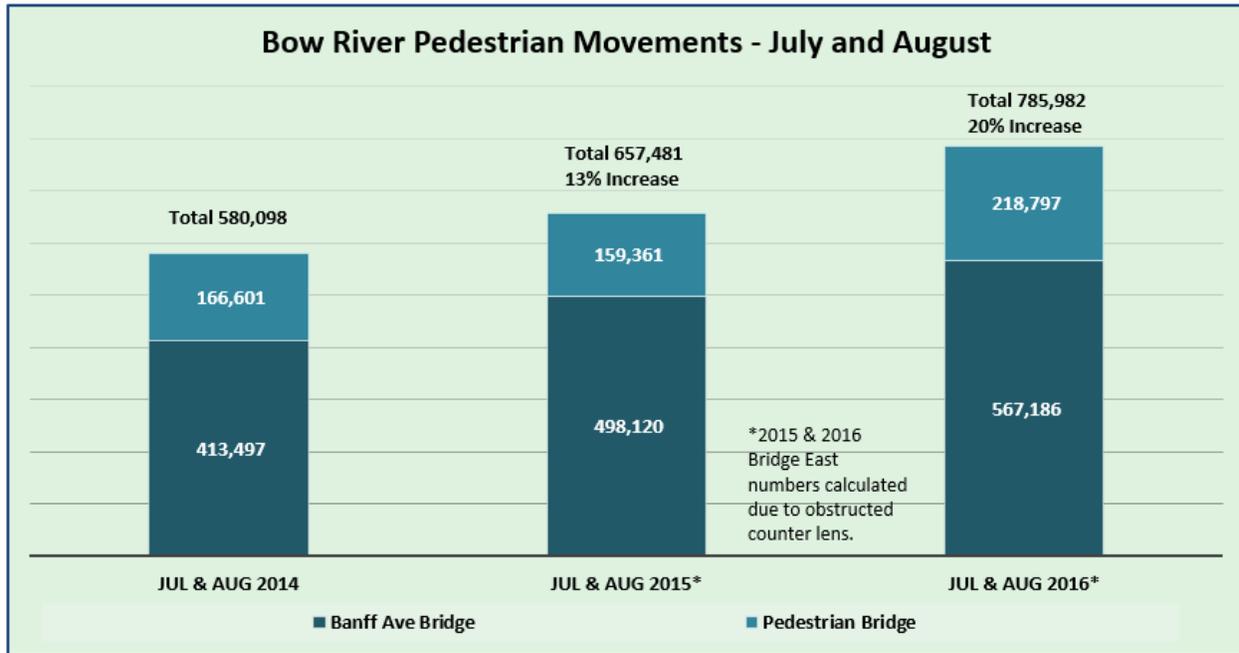
Main Entrances vehicle volume between the two comparative weeks increased by 2.6% from 167,421 in 2015 to 171,900 in 2016.

- A total of 614 useable private stalls were identified in Zone A, versus 597 in 2015
- Average occupancy was 51%, leaving an average of 300 stalls available for use.
- Peak occupancy was 61%, recorded between 2:00pm and 4:00pm.
- Below grade stalls were generally less well utilized with average occupancy of 43%.

PEDESTRIAN MOVEMENTS

River Crossing Pedestrian Movements

- Average daily pedestrian river crossings increased 20% from 10,605 per day for July and August of 2015 to 12,677 per day in the same period in 2016.
- Pedestrian Bridge crossings represent 28% of the summer river crossings, up from 24% in 2015.



*Please note that Banff Avenue Bridge East (near the Royal Canadian Legion) numbers were calculated based on Banff Ave Bridge West (near Banff Park Museum) counter numbers, using an average East 30/West 70 split in April, May and June 2015 and 2016 as a template. These calculations were required due to the counter lens being obstructed by an insect cocoon and/or foliage on 3 occasions.

COMMUNICATIONS DATA

In the summer of 2016 an expanded communications plan targeted at increasing awareness of congestion and parking issues and promoting mode shift away from the use of private vehicles, was carried out. For the period between June 1 and August 31, 2016 the following data are available:

Website

These are the top four pages by page view:

- Homepage 421,854, a 6% decrease from 448,889 in 2015
- Johnston Canyon hike 43,020, an 81% increase from 23,749 in 2015
- Traffic Cams 25,914, an 31% increase from 19,814 in 2015
- Visit Banff 24,106, an 6% increase from 22,743 in 2015

Twitter

26 tweets on traffic-related topics generated 50,717 impressions (the number of times users saw the tweets). These include posts about parking, road closures, traffic dashboard, active transit, the red carpet campaign, bike month, etc. In the same period in 2015, 53 tweets generated 66,365 impressions.

Facebook

25 posts on traffic-related topics similar to Twitter with a reach of 98,954. 20 posts reached 207,784 users in 2015.

Instagram

5 posts on Instagram, each averaging 9,600 impressions.

Traffic Dashboard

The Dashboard was launched on May 18th with tracking of web traffic beginning in the first week of July. There were approximately 4700 views during July and August combined for an average of 75 views per day.

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 in areas of parking and free transit
- Increased transit frequency and expanded local and regional routes
- Increased parking enforcement
- Expanded traffic signal management through the green overrides from weekends to include weekdays and evenings
- Expanded communications strategies with the Traffic Dashboard
- Expanded data collection and vehicle travel time and parking data availability

An analysis of trends in data between 2015 and 2016 indicates that:

- Entrance counter volumes for 2016 vs 2015 increased by 7% in July and August; 8% from January 1 to September 30.

- Banff's road network was over the 2013 congestion threshold of 20,000 VPD for 100% of the days in July and August.
- 49 out of the 62 days (79%) in July and August were over the 2015 congestion threshold of 24,000 VPD – an increase of 20 days (69%) from the 29 days recorded in 2015.
- Northbound delays greater than 30 minutes remained the same between 2015 and 2016, at 1 day.
- Northbound delays greater than 15 minutes increased from 8 days in 2015 to 12 days in 2016.
- The July and August Mountain Avenue vehicle volume increased by 5%. This value compared with a 7% increase in entrance counter volumes, increased visitation at the attractions in the same period, successes with private shuttles and a 5% increase in Sulphur Mountain Roam ridership suggests a mode shift to sustainable transportation and away from private vehicle use for the journey.
- Roam ridership on all local routes increased in July and August by 1%.
- 4% of bridge travellers in vehicles used the Roam system with a further 1% on the Brewster shuttle service - 95% of people travelling in vehicles over the bridge were in private vehicles.
- Green overrides increased 85% from 142 in 2015 to 262 YTD in 2016.
- The number of time limit parking tickets issued from May 1 to September 30 decreased by 20% over the same period in 2015; repeat offender numbers increased by 9% and ticket appeals as a percentage of overall tickets issued decreased by a negligible .025%.
- Parking shortfall for the first week in August decreased from a deficiency of 1 stall in 2015 to a surplus of 64 stalls in 2016.

Data gathered in 2016 and trends from 2014 to 2015 suggest that, despite a cumulative 8% 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.

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 maximize the efficiency of vehicle movements travelling north and south through the Buffalo/Banff intersection. The strategies employed in 2015 and 2016 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 past The Fenlands as far as the TransCanada Highway off-ramp and slow-moving traffic observed in the cross-town movements. 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 30+ 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 – Indigo parking study 2016

Attachment # 2 – Blufax data

Circulation date: October 2016

Submitted By: 2016.10.19
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