

Foxground and Berry bypass



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Berry Alliance Community Forum

Traffic Assessment of Victoria Street Design Options

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June 14, 2012

Presented at Berry Alliance Community Forum 14 June 2012

The aim of this presentation is to inform the local community of:

- Current traffic flows; and
- The predicted local road traffic impacts of options for the western end of Victoria Street.

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As discussed at the working group meetings, RMS is required to present one option for the purpose of the environmental assessment.

Following further assessment, RMS has moved forward with Victoria Street closed in its concept design.

However, as advised in the working group, RMS is able to deliver any of the Victoria Street design options through the project.

Therefore RMS will continue discussions and encourage feedback and submissions through the environmental assessment display.

The decision will be made through the EA process under the NSW Department of Planning and Infrastructure.

This presentation is structured into the following three sections:

- Existing Conditions

- Current year (2012) traffic patterns and volumes on local roads in Berry.

- Future Conditions

- Future year (2037) projections of traffic patterns and volumes on local roads in Berry for the closure or part closure of Victoria Street design options.

- Summary of Traffic Impacts

- Summary of increased or decreased traffic volumes on local roads in Berry for each option.

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RMS and Shoalhaven Council recently collected traffic data from the following:

- Automatic Traffic Counts

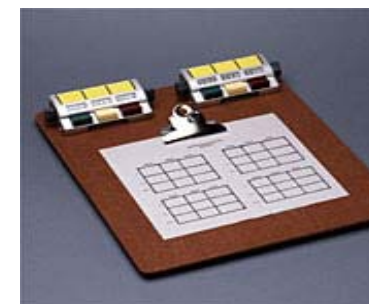
- Automatic traffic counters ‘tubes’ were put down on 13 local roads in Berry to record daily traffic volumes.

- Intersection Turning Counts

- Surveyors manually recorded the number of vehicles turning at the Victoria Street intersections with the highway and Prince Alfred Street.

- Origin-Destination (OD) Surveys

- Surveyors manually recorded number plates of vehicles entering and exiting Victoria Street to/from the highway and Prince Alfred Street – to determine the proportion of ‘through’ traffic.



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Traffic assessments usually consider three time periods:

- Morning Peak Hour (AM peak)

- The busiest 1 hour period between 7am-10am.
- Peak traffic volumes of people travelling from home to school, work etc.

- Evening Peak Hour (PM peak)

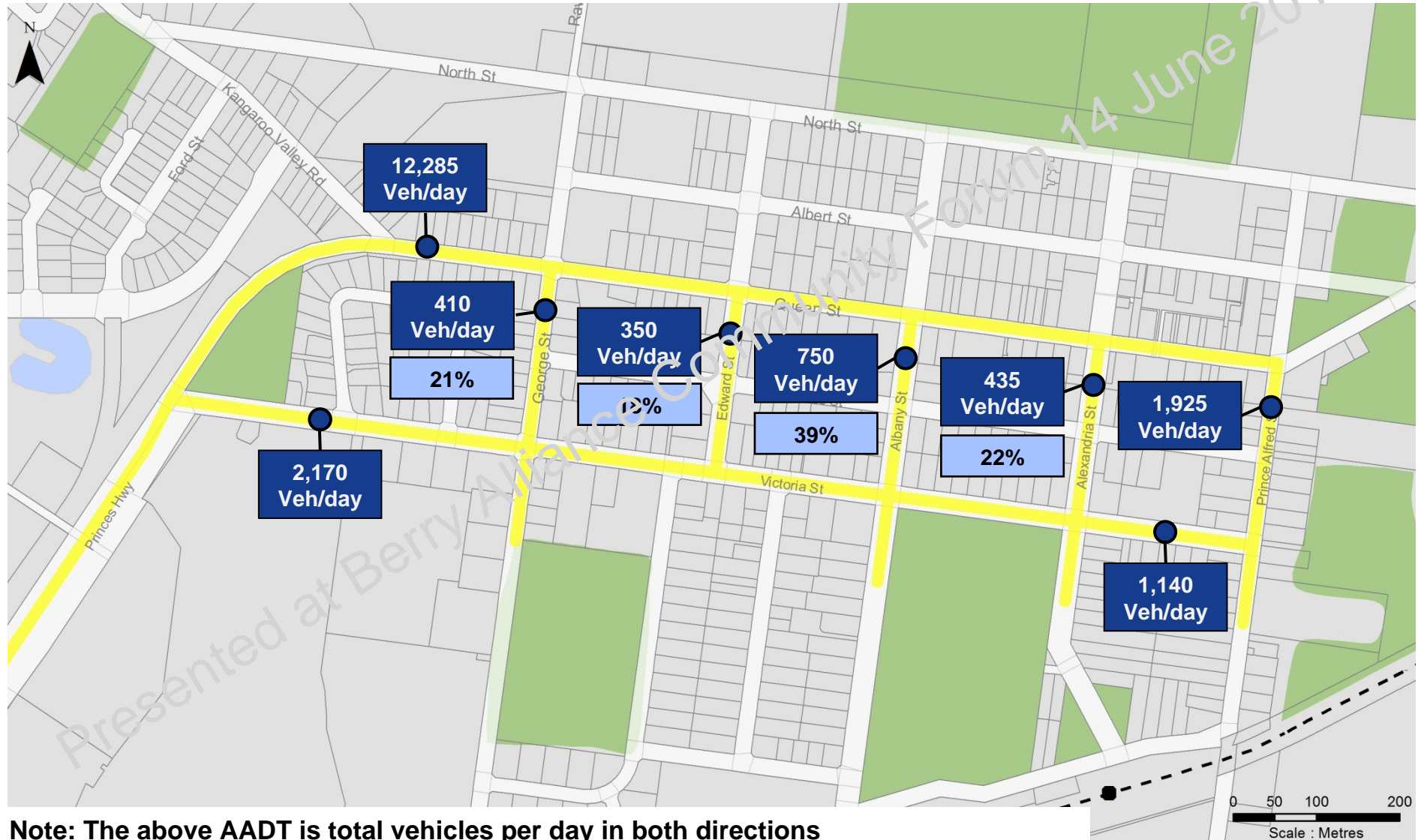
- The busiest 1 hour period between 3pm-7pm.
- Peak traffic volumes of people travelling home from school, work etc.

- Annual Average Daily Traffic (AADT)

- The daily 24 hour period for an average day of the year.
- Takes account of variations in traffic levels throughout the year.
 - For example, the Berry Country Fair | Market days | School Holiday periods).

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Existing Conditions - AADT on Local Roads

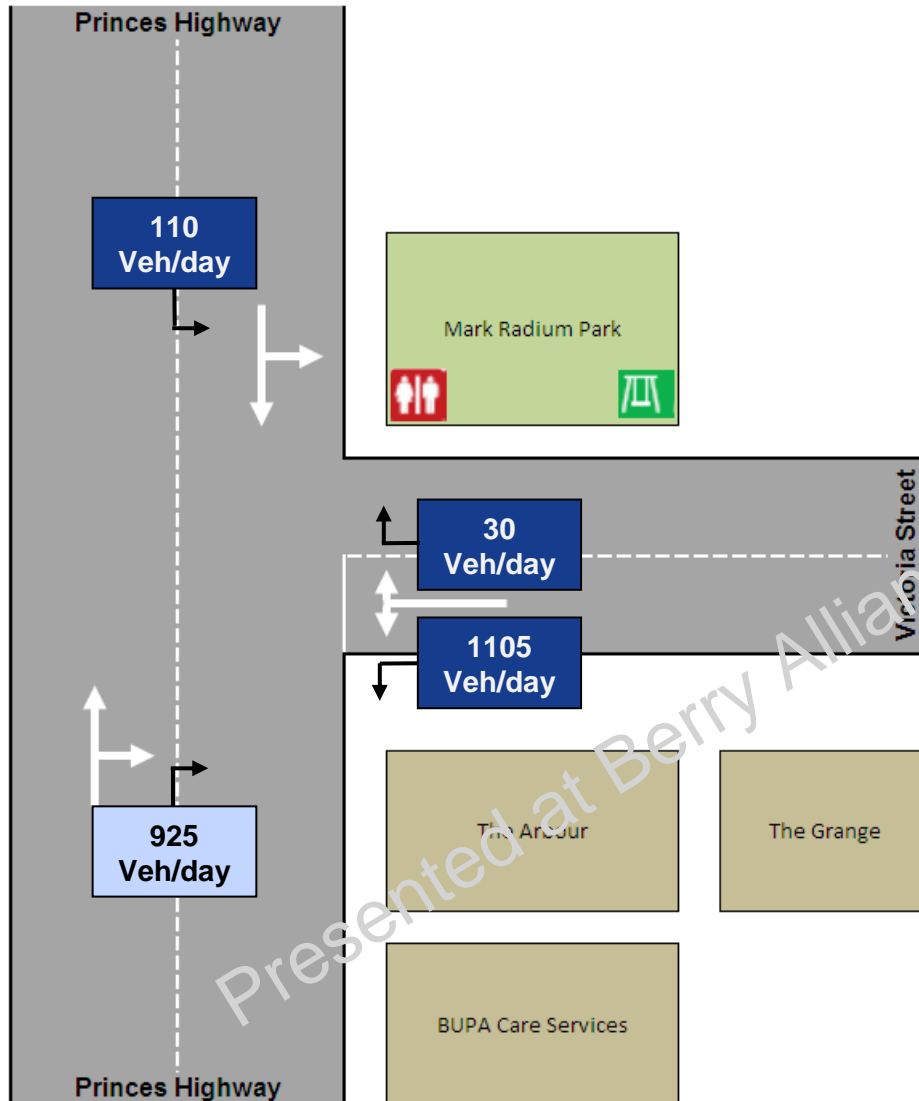


Note: The above AADT is total vehicles per day in both directions

Existing Conditions – AADT Turning Left | Right at the Victoria Street | Highway Intersection



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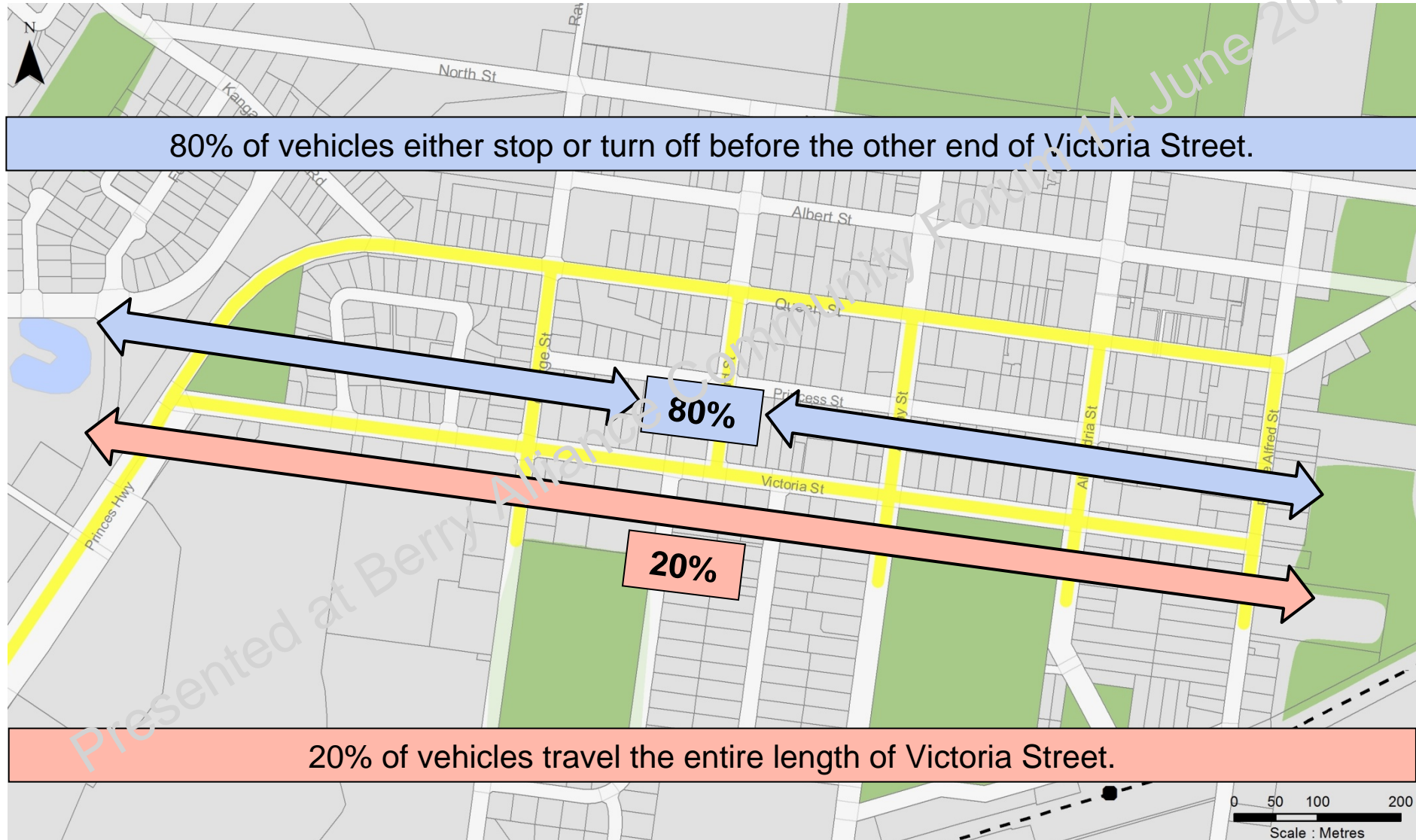
Note:

- The existing right turn from the Princes Highway to Victoria Street will be banned as part of the Foxground and Berry Bypass.
- The existing AADT for this movement is 925 vehicles per day.
- The existing AADT on Victoria Street east of the highway intersection is 2,170 vehicles per day.
- Therefore, there will be a **43% reduction** ($925 / 2,170$) in traffic on Victoria Street regardless of the street being open or closed....

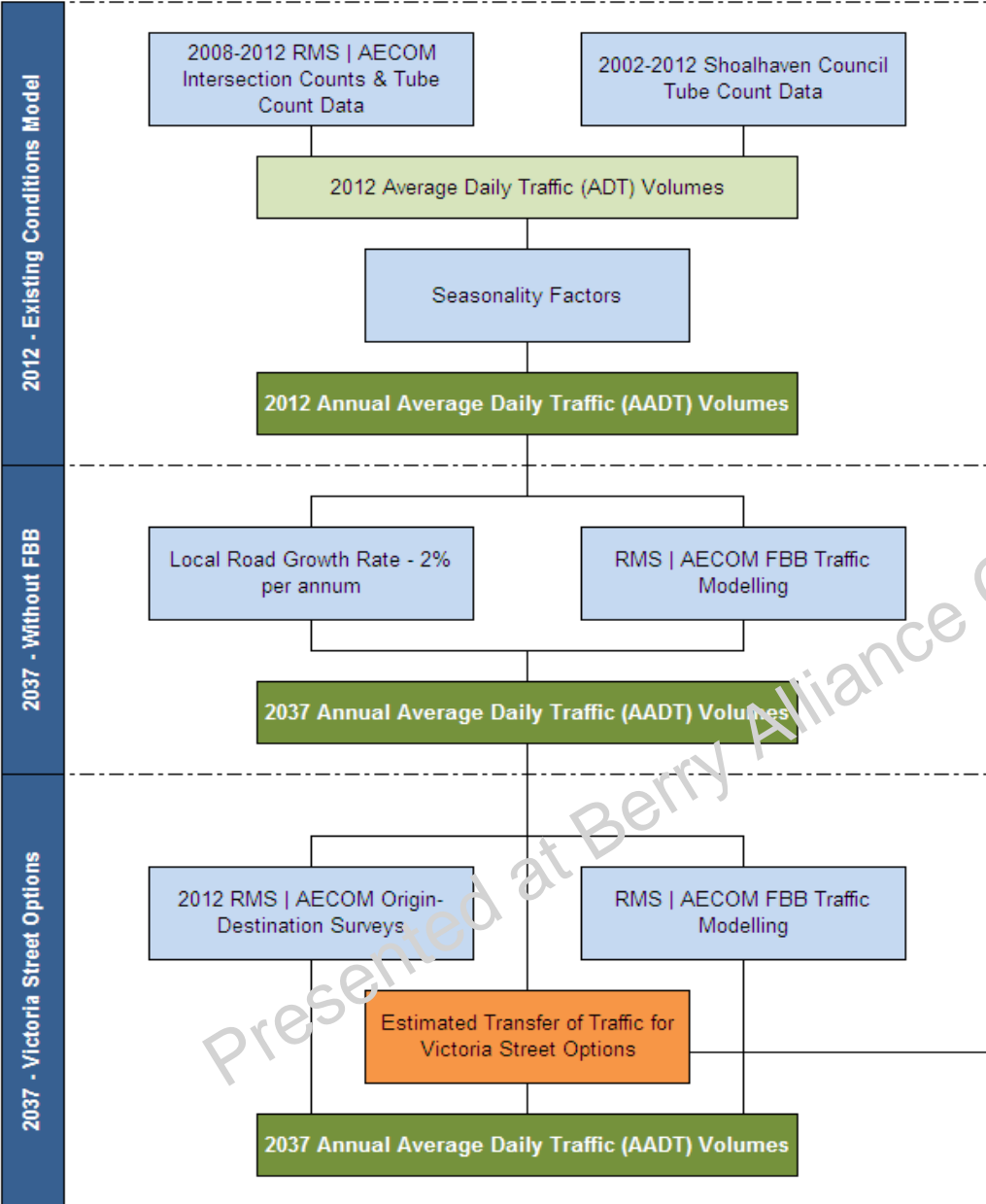
Existing Conditions - Victoria Street 'Through' Traffic



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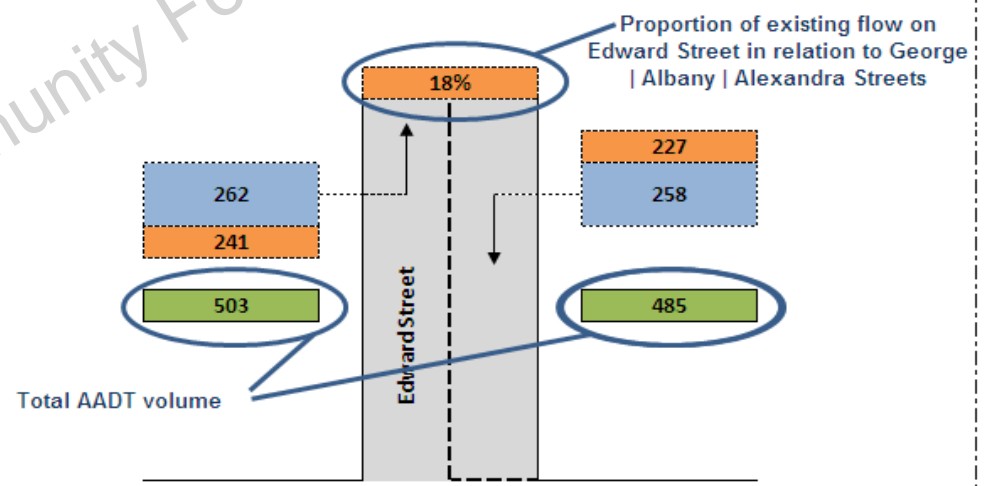


Future Conditions - Detailed Traffic Forecasting Methodology



Assumptions to Re-distribute Traffic from Victoria Street

- External to Internal | Internal to External | External to External Splits were derived from OD surveys.
- The OD surveys were also used to determine the direction of external to external traffic at the Victoria Street | Prince Alfred intersection.
- The existing relatives of flow across the four local north-south roads were used to calculate the proportion of traffic transferred to each local road. This was consistent for each Victoria Street option
- The distribution models are based on a layered approach in which the sum of multiple traffic volumes at local road locations equate to the total. For example:



2037-Victoria St Closed Model

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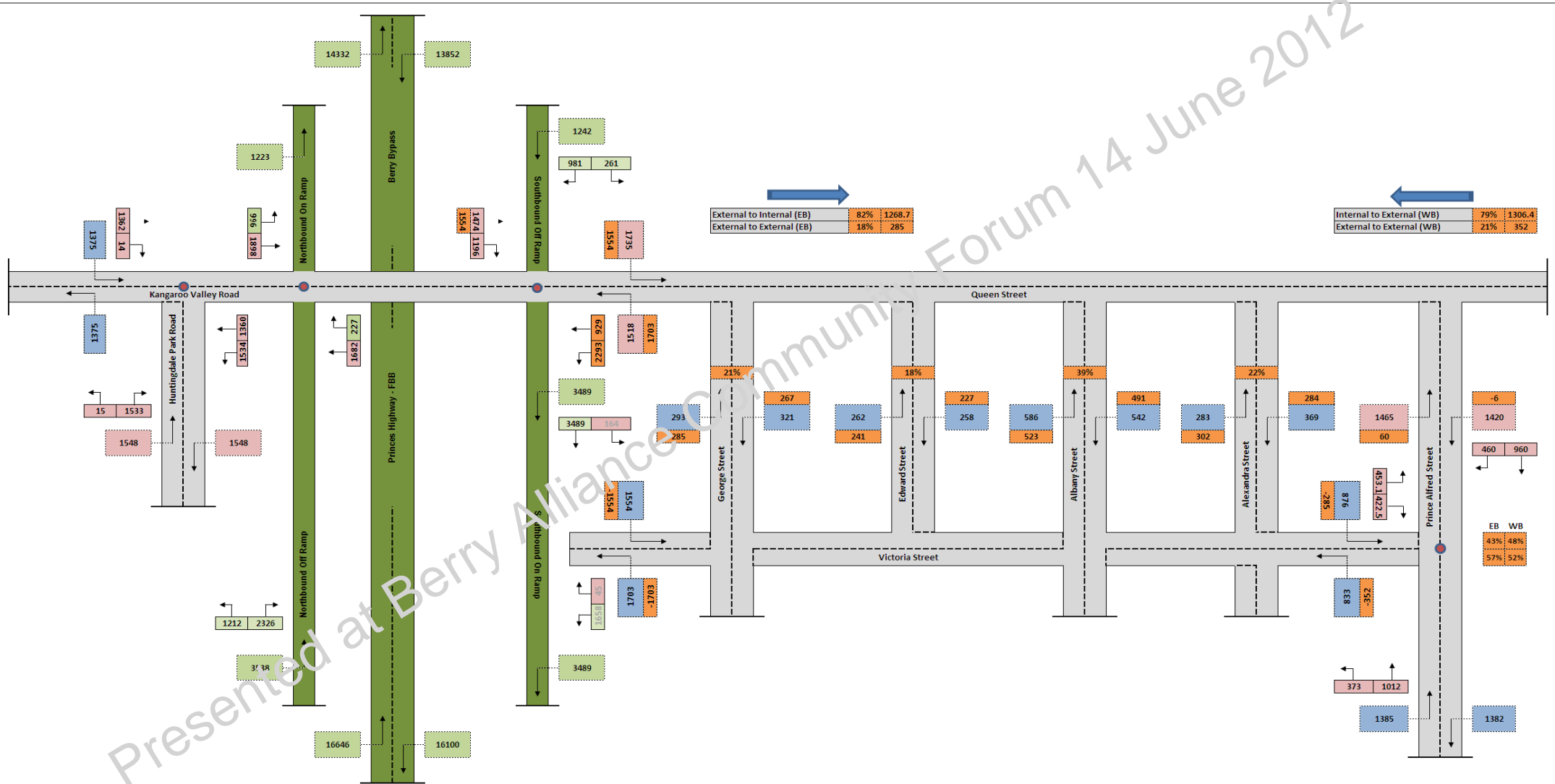
- A **future year of 2037, which is 25 years from now**, was selected for the traffic assessment of Victoria Street Design Options.
- Daily traffic volumes on local roads are predicted to **increase by 2% per annum** due to population and employment growth projections.
- The predicted transfer of traffic for the closure or part closure of Victoria Street options were based on:
 - **Existing proportions of total AADT across George Street | Edward Street | Albany Street | Alexandra Street.**
 - **80% local and 20% through traffic split** on Victoria Street to/from the Princes Highway and Prince Alfred Street.

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Future Conditions – Example of the Traffic Distribution Traffic Model



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Berry Local Road Traffic Surveys
 2037 - Victoria St Closed | One-way Southbound On-Load Ramp
 Annual Average Daily Traffic (AADT) Volumes
 Summary of Directional ADT Based on Shoalhaven City Council Traffic Data (2002 - 2012)
 Wednesday, 13 June, 2012

Key:

- AADT from Shoalhaven Council Traffic Data
- AADT calculated from intersection counts and FBB traffic modelling
- Transfer of traffic from Victoria Street option

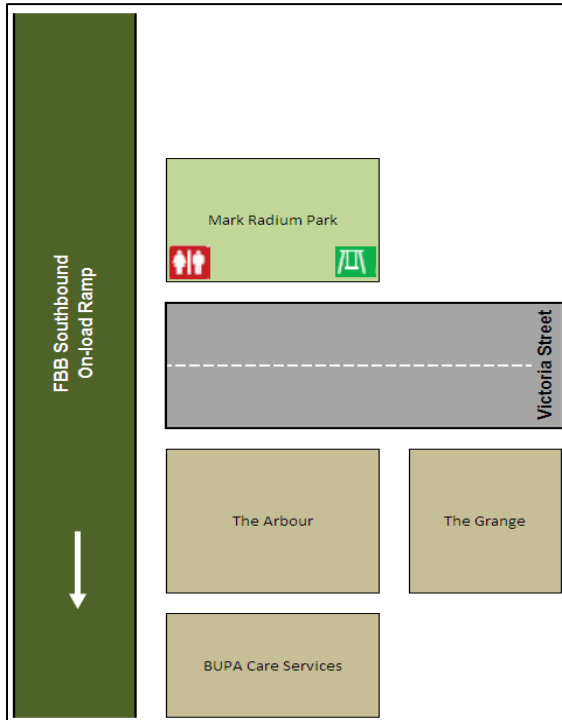


The following 3 options were assessed:

1. Full closure of Victoria Street (via creation of a cul-de-sac or turnaround area).
2. Victoria Street open and 'one-way' connection on the FBB southbound on-load ramp between Queen Street and Victoria Street.
3. Victoria Street open and 'two-way' connection on the FBB southbound on-load ramp between Queen Street and Victoria Street.

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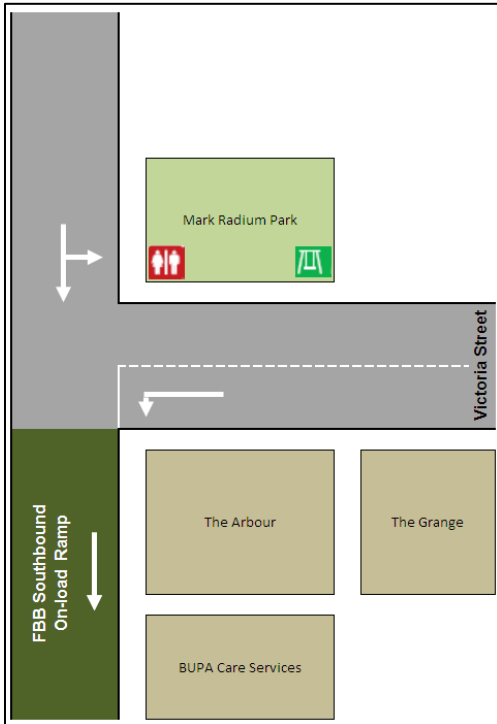
Future Conditions - Option 1: Victoria Street Closed



Local Road	2012	2037 Victoria St Closed One-way Ramp	
	AADT	AADT	% Diff
Queen St	12,285	6,510	- 47%
Victoria St (West)	2,170	0	- 100%
Victoria St (East)	1,140	1,070	- 6%
George St	410	1,165	+ 185%
Edward St	350	990	+ 185%
Albany St	750	2,140	+ 185%
Alexandra St	435	1,235	+ 185%
Prince Alfred St	1,925	2,940	+ 53%

- In 2037, daily traffic volumes on Queen Street will be 47% less than existing levels with FBB constructed and closure of Victoria Street.
- Victoria Street will have zero traffic at the closed end and a 6% reduction in AADT at the eastern end with full closure of the Princes Highway intersection.
- Traffic volumes on George Street | Edward Street | Alexandra Street will grow by 185% over the next 25 years, resulting in similar daily traffic volumes to what Victoria Street (east) has today.
- Albany Street traffic volumes will also grow by 185% to an AADT of 2,140 vehicles per day in 2037, resulting in similar daily traffic volumes to what Victoria Street (west) has today.
- AADT on Prince Alfred Street will grow by 53% over the next 25 years.

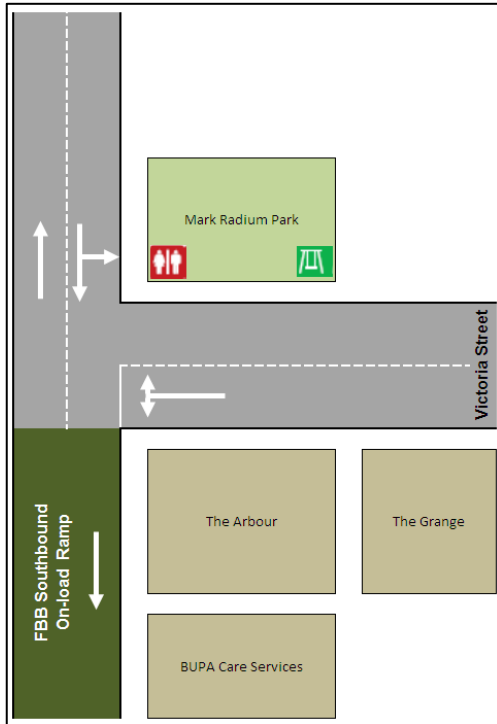
Future Conditions - Option 2: Victoria Street Open | One-Way



Local Road	2012	2037 Victoria St Open One-way Ramp	
	AADT	AADT	% Diff
Queen St	12,285	4,690	- 62%
Victoria St (West)	2,170	1,820	- 16%
Victoria St (East)	1,140	1,430	- 26%
George St	410	860	+ 110%
Edward St	350	725	+ 110%
Albany St	750	1,575	+ 110%
Alexandra St	435	910	+ 110%
Prince Alfred St	1,925	2,925	+ 52%

- In 2037, daily traffic volumes on Queen Street will be 62% less than existing levels with FBB constructed and Victoria Street open a left-turn to the southbound on ramp.
- Victoria Street will have a 16% and 26% reduction in AADT at the western and eastern end respectively.
- Traffic volumes on George Street | Edward Street | Alexandra Street will grow by 110% over the next 25 years, resulting in similar daily traffic volumes to what Albany Street has today.
- Albany Street traffic volumes will also grow by 110% to an AADT of 1,575 vehicles per day in 2037.
- AADT on Prince Alfred Street will grow by 52% over the next 25 years, which is consistent across all options.

Future Conditions - Option 2: Victoria Street Open | Two-Way



Local Road	2012	2037 Victoria St Open Two-way Ramp	
	AADT	AADT	% Diff
Queen St	12,285	4,645	- 62%
Victoria St (West)	2,170	1,865	- 14%
Victoria St (East)	1,140	1,430	+ 26%
George St	410	850	+ 107%
Edward St	350	720	+ 107%
Albany St	750	1,560	+ 107%
Alexandra St	435	900	+ 107%
Prince Alfred St	1,925	2,925	+ 52%

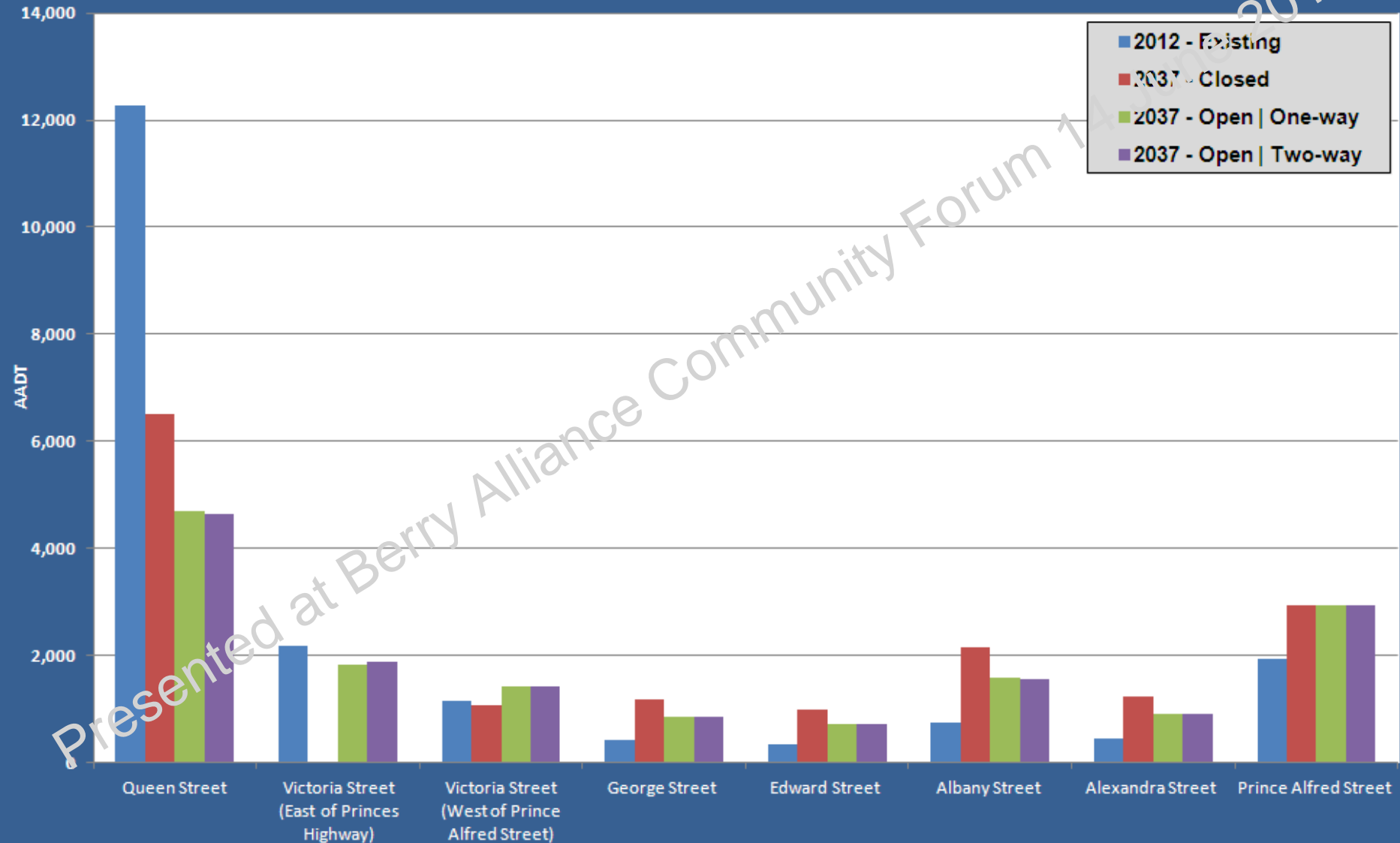
- In 2037, daily traffic volumes on Queen Street will be 62% less than existing levels with FBB constructed and Victoria Street open a left-turn to the southbound on ramp.
- Victoria Street will have a 14% and 26% reduction in AADT at the western and eastern end respectively.
- Traffic volumes on George Street | Edward Street | Alexandra Street will grow by 107% over the next 25 years, resulting in similar daily traffic volumes to what Albany Street has today.
- Albany Street traffic volumes will also grow by 107% to an AADT of 1,560 vehicles per day in 2037.
- AADT on Prince Alfred Street will grow by 52% over the next 25 years, which is consistent across all options

Summary of Traffic Impacts - Comparison of All Victoria Street Design Options vs. 2012 Existing



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AAADT - Victoria Street Design Options vs. 2012 Existing

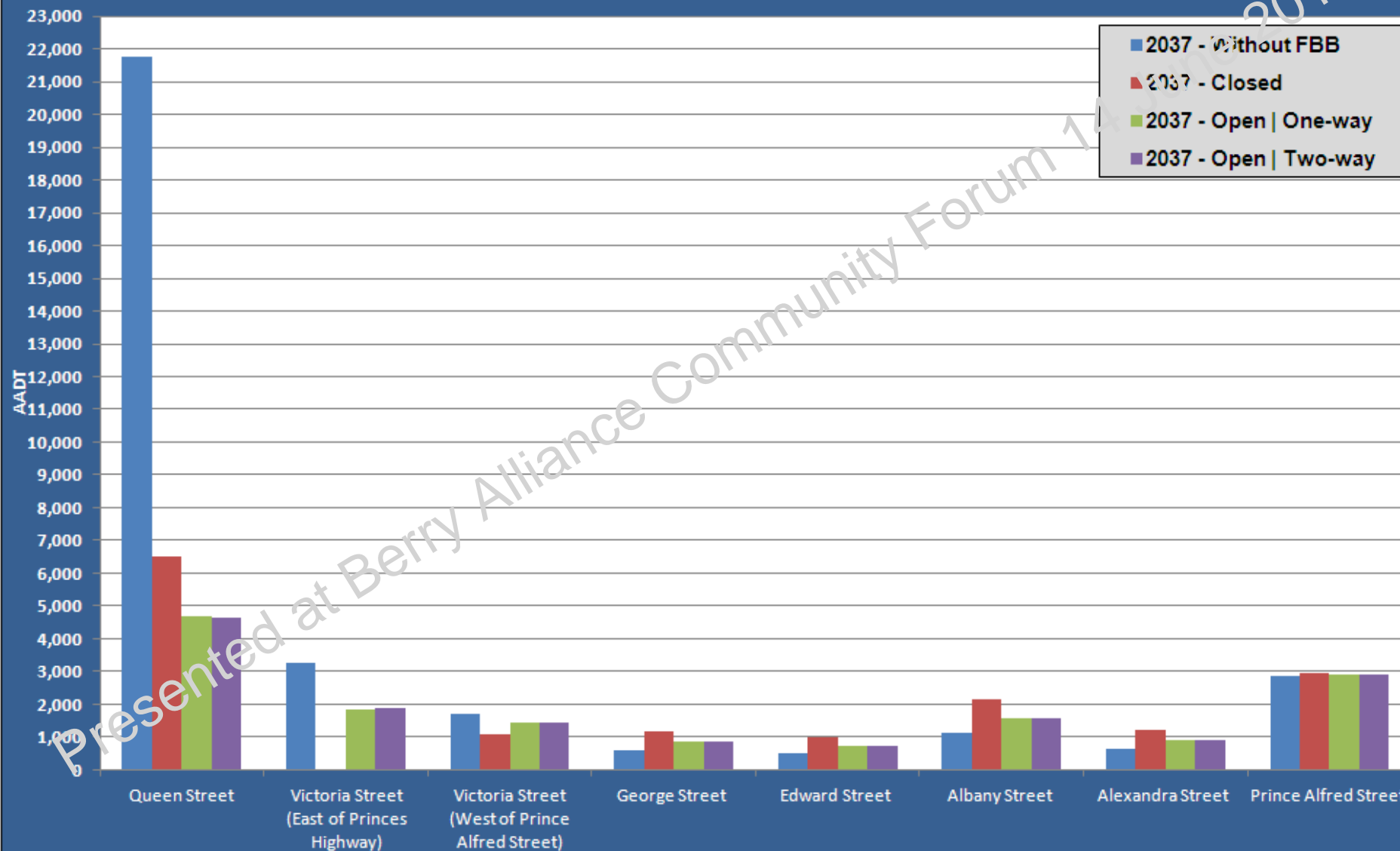


Summary of Traffic Impacts - Comparison of All Victoria Street Design Options vs. 2037 Without FBB



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AADT - Victoria Street Design Options vs. 2037 Without FBB



Summary of Traffic Impacts - Local North-South Roads Between George St and Alexandra St



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For all 3 options, the four local north-south roads between George Street and Alexandra Street will experience the largest increase in traffic:

- Daily traffic volumes are predicted to increase between 107%-185% over the next **25 years** for all 3 options.
- These figures appear relatively high, however AADT will be around or less than 2,000 vehicles per day in 2037, which equates to:
 - Approx **100 vehicles per hour in each direction** during the busiest AM peak and PM peak periods.
 - less than **2 vehicles per minute in each direction.**
 - **The existing 2012 daily traffic volumes on Victoria Street near Mark Radium Park today.**

- Predicted traffic volumes in 2037 for all options will not significantly change the residential nature of the local road network in Berry.
- Particularly as AADT on Queen Street in 2037 will be 50% less than the daily traffic volume today.
- Traffic impacts along with other environmental impacts will contribute to the selection a final solution for Victoria Street.

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