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Opus have been commissioned by Greater Wellington Regional Council (GWRC) to undertake an operational review of public transport (PT) on the Golden Mile between Wellington Railway Station and Kent and Cambridge Terrace as part of a package of measures to “Restore the Golden Mile” corridor and develop the PT spine.

Bus operations through the Wellington CBD and along the Golden Mile are currently unreliable with significant delays for a large number of bus services during both peak and inter peak periods. The recently approved Ngauranga to Airport (N2A) Strategy Study strengthened the need to enhance a PT corridor through the CBD with the ability to safeguard for enhanced PT in the future.

As part of this Operational Review for the Golden Mile, detailed surveys were carried out to better understand passenger demands and journey times for all routes using the Golden Mile. It should be noted that the calculation of journey time for the 2009 do minimum utilised the bus operational data recorded specifically for this project and covered all routes using the Golden Mile in order to get a representative sample. This data differs from the GPS data used from the Valley Flier services for the analysis of the Manners Mall project. In comparing these two data sets it was identified that there was reasonably good correlation during most periods. The most recent data collected for this project displayed higher average journey times and greater variability. This data further highlights the problems regarding journey time variability and reliability through the Golden Mile and the section between Taranaki Street and Willis Street in particular. Figure 1, below, compares the do-minimum travel time through Manners Mall using the survey data and Valley Flier GPS data. Note that travel times for Manners Mall were extracted based on bus stop locations while do-minimum travel times reported in the earlier Manners Mall report were based upon intersection locations.

Figure 1: 2009 Do-minimum Travel Time Comparison

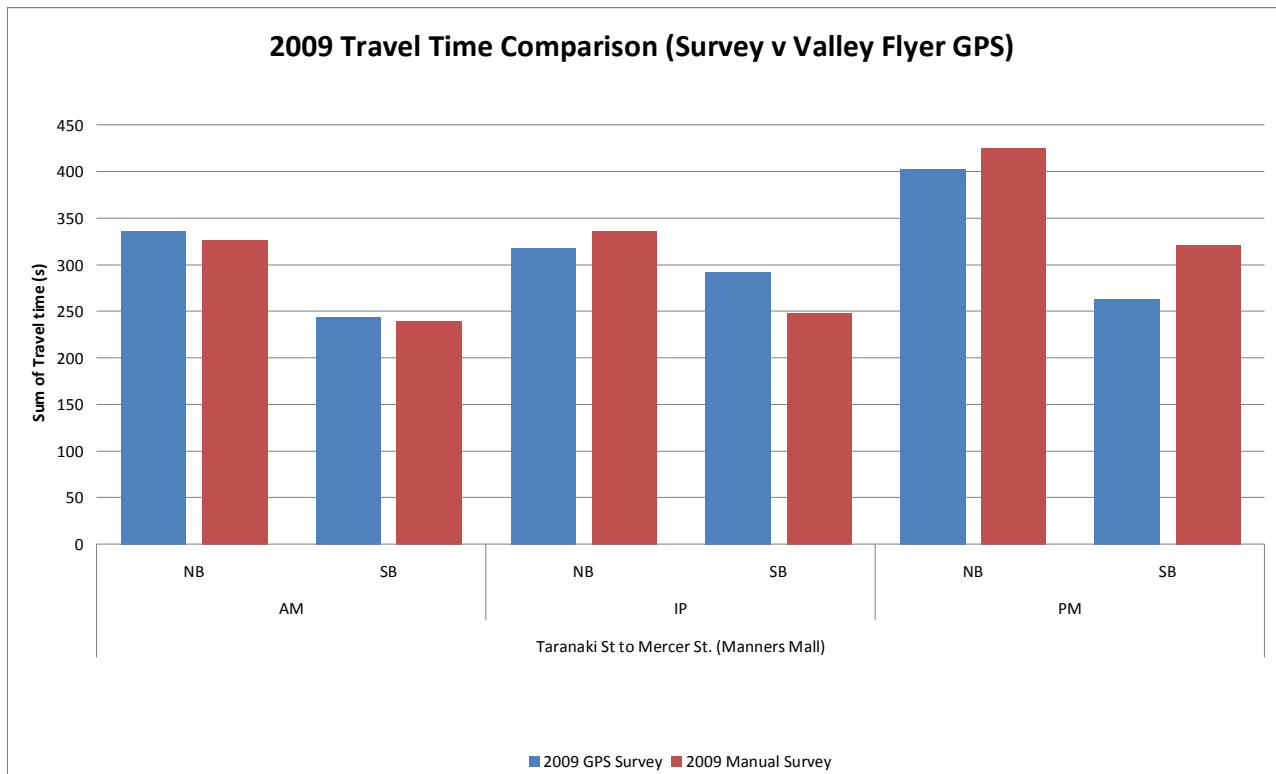


Figure 2 and 3, below, show the average travel time between each of the bus stops and distance on the route for the northbound and southbound directions respectively. As can be seen, a significant portion of the current travel time is resulting from the Manners Mall section of the Golden Mile (Dixon Street – Cuba Mall stop to approximately the Lambton Quay – Cable Car stop in the northbound direction and Willis Street – Willibank Court stop to Courtenay Place – Courtenay Central stop in the southbound direction). Additionally, significant variation in the PM peak travel time relative to the interpeak and AM peak periods is evident.

The overall average travel speed in the northbound direction ranges from a low of 9.2 km/h during the PM peak to a high of 11.5 km/h during the interpeak for the Golden Mile. The lowest travel speeds were recorded on Lambton Quay between the Cable Car and Farmers bus stops. The average travel speed on this link in AM, interpeak and PM peak periods is 7.5km/h, 7.4km/h and 6.0km/h respectively. In the PM peak, travel speeds on Courtenay Place between the Paramount and St. James stops are on average 6.0km/h. The highest average travel speed of 13.9km/h was recorded during the interpeak period between the Lambton Quay – North End stop and the Railway Station.

Average travel speeds for the southbound direction are slightly lower than for the northbound direction. The average travel speeds recorded for each segment and time period range between 7.9 km/h and 15.2 km/h. The fastest average travel speed was for the AM peak between Lambton Quay (ANZ Bank) and Willis Street (Willibank Court). The slowest average travel speed occurs during the PM peak between Cuba Street and Courtenay Central.

Figure 2: Average Northbound Travel Time (2009)

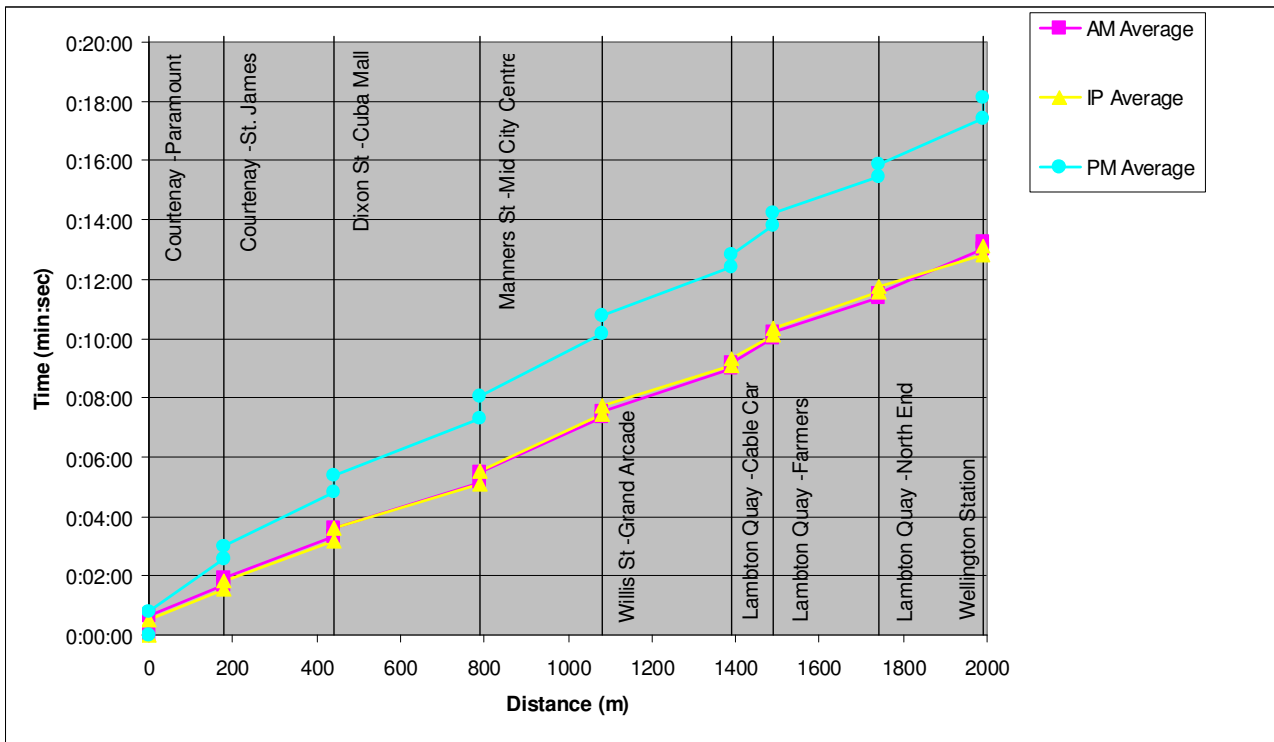
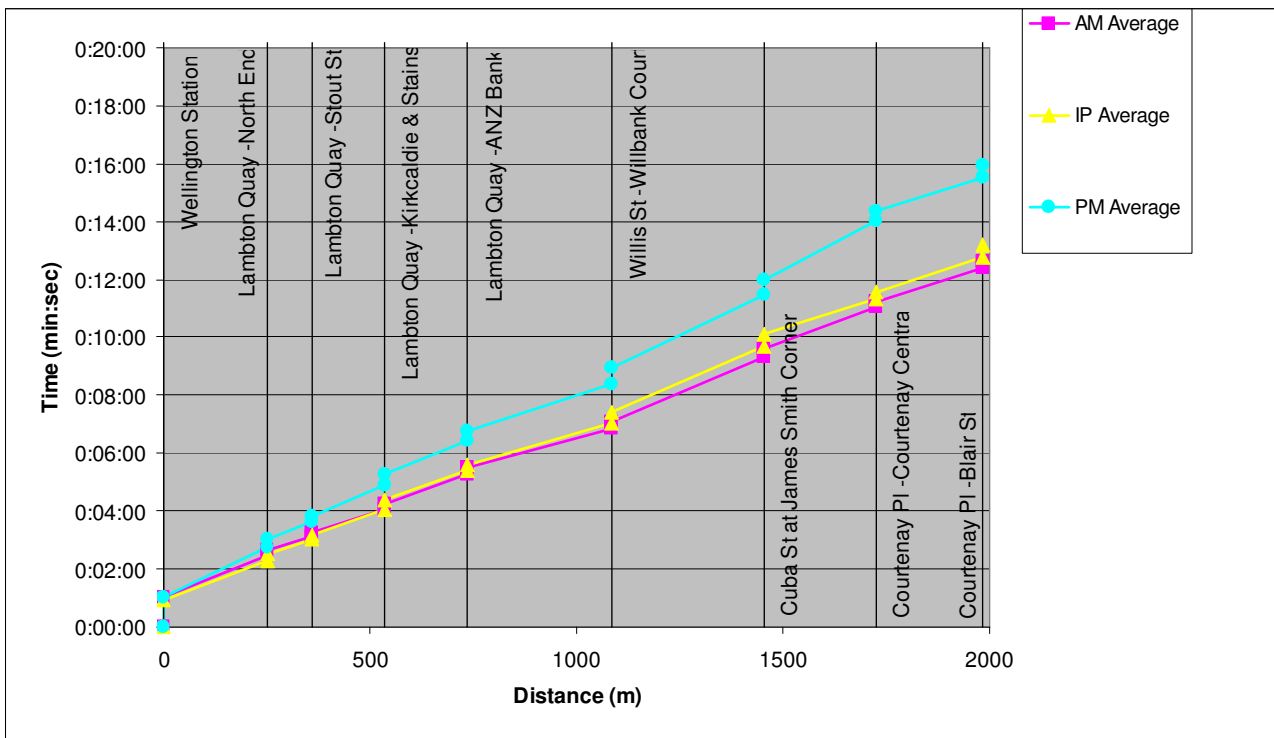


Figure 3: Average Southbound Travel Time (2009)



Existing public transport delay and variability is significant and will only increase in the future without interventions or modification to the existing network operation model for bus services. As discussed earlier, the significant difference between the PM peak and other periods highlights this variability, while Table 1 below highlights the average travel time by

section and the range of travel times. These survey results display that the Manners Mall section is subject to the greatest variability, particularly in a northbound direction.

Table 1: Travel Time and Variability for the Golden Mile (2009)

Route Section		Average Travel Time [Range] (min:sec)		
		AM	Interpeak	PM
Kent/Camb Tce to Taranaki St.	NB	1:54 [0:35-3:43]	1:48 [0:44-3:41]	2:59 [0:25-8:28]
	SB	1:35 [0:36-2:37]	1:49 [0:49-3:49]	1:51 [0:46-4:06]
Taranaki St to Mercer St. (Manners Mall)	NB	5:27 [3:08-8:18]	5:37 [3:48-7:58]	7:06 [3:57-13:35]
	SB	4:00 [2:35-7:00]	4:08 [2:10-5:36]	5:22 [2:57-8:58]
Mercer St. to Molesworth St.	NB	6:03 [4:16-9:22]	5:54 [3:47-8:09]	7:47 [5:03-12:21]
	SB	7:11 [4:32-11:31]	7:25 [4:49-11:37]	8:58 [5:27-12:40]

Growth in PT for the study area is predicted to increase significantly (between 10 and 30% during peak periods) until 2016 and then maintain lower growth beyond this period through to 2026. This growth will place increased pressure on existing operation and infrastructure, highlighting the need for short to medium term enhancements to those locations in which reliability and operational conditions are poor. Therefore, it is not deemed appropriate that the do minimum or do nothing scenario be considered as an option given the excessive journey time variability and importance of the Golden Mile as a transport corridor for Wellington.

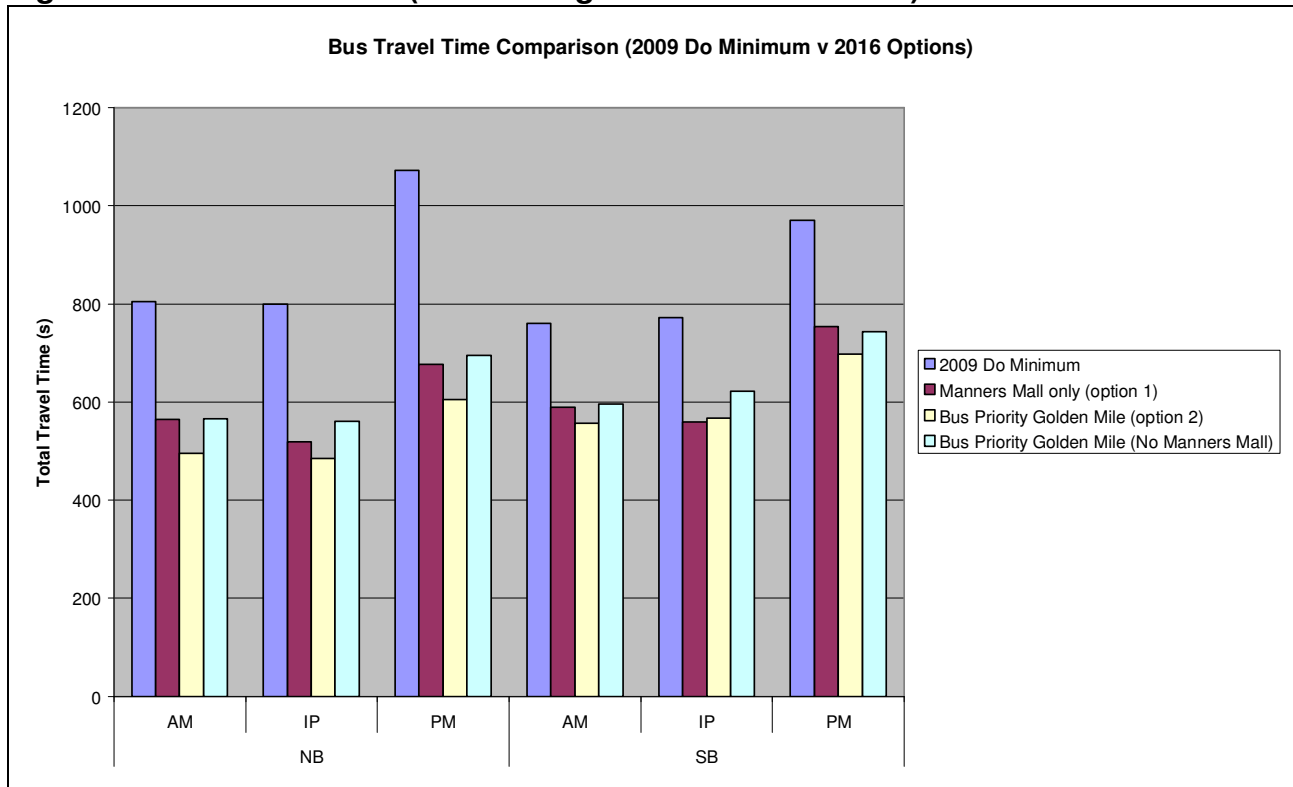
Figure 4, below, summarises the total travel time along the Golden Mile for the 2009 do-minimum and 2016 option scenarios. Three option scenarios were tested:

- Manners Mall Only (Option 1) – Manners Mall improvements only, with minor improvements to bus priority over the length of the Golden Mile.
- Bus Priority Golden Mile (Option 2) – Provides a much greater level of bus priority and significant vehicle restrictions to create a public transport dedicated space and facility for much of the Golden Mile corridor.
- Bus Priority Golden Mile (No Manners Mall) –This is Option 2 but without the Manners Mall section (Option 1).

It is evident from this assessment that the Manners Mall project is the main contributor of benefits to any improvements over the length of the Golden Mile. With the introduction of the Manners Mall project or the entire Golden Mile bus priority project, the journey times are significantly reduced, however more importantly, the variability is also significantly reduced between direction and different time periods.

Although option 2 does result in an improvement in benefit to bus operation over option 1, this option has a much greater impact on general traffic operation and accessibility. It should be noted that this project did not aim to refine the options in any great detail and it is anticipated that bus priority and traffic management measures on the scale of those identified in option 2 would need a detailed assessment and design process. However this assessment was aimed at giving an indication as to whether this would offer significant benefit to buses, both now and in the future.

Figure 4: Bus Travel Time (Entire Length of the Golden Mile)



Clearly the outputs of this indicative assessment highlight that much of the existing operational problems occur between Taranaki Street and Willis Street (Manners Mall). By introducing significant further enhancements over the length of the Golden Mile at this time will offer very little more to bus operation and is likely to come at a significant cost.

On this basis, the greatest priority should be placed on the enhancement of bus priority improvements for Manners Mall and minor enhancements to the rest of the corridor, while recognising that significant improvements over the length of the Golden Mile should be focused towards gradual restriction of traffic and increased levels of bus priority and associated provision.

The existing issues with poor legibility due to the split route arrangement through the section between Lambton Quay and Courtney Place, and the significant delay, congestion, and journey time variability in a northbound direction provide the justification for improvements to be made and are consistent with GWRC and WCC’s desire to focus on this area in order to complement the wider planned improvements to the Golden Mile PT corridor. The proposal for Manners Mall not only seeks to enhance PT, but also considers public space, pedestrian desire lines, safety and the urban fabric of the City.

The WCC project currently being considered involves opening up Manners Mall as part of a package of measures to “Restore the Golden Mile” to relieve one of the most significant bottlenecks and areas of poor legibility for bus operations. This infrastructure project has been identified as the single most significant change that could to be made to enhance current bus operation and future PT provision on the Golden Mile.

While this operational review has reconfirmed Manners Mall as being a top priority for improving the efficiency and reliability of bus operations in the Central Wellington area,

additional improvements would result in further benefits for public transport users. These additional improvements include:

- Bus stop rationalisation and relocation of some stops
- Bus stop layout and design improvements
- Reallocation of road space
- Parking restrictions and enforcement
- Cashless ticketing on the Golden Mile
- Integrated ticketing for the PT network
- Real time information and bus detection
- Bus scheduling optimisation

In addition to these interventions, the analysis also indicated that reducing the number of buses using the Golden Mile would improve the efficiency and reliability of bus operations. A number of operational models were assessed, all of which would result in a trade-off between the desire to provide direct routes that minimise the need for passengers to transfer and the ability to reduce the number of buses travelling through the Golden Mile. Therefore the Suburban hubs option was identified as the preferred long term solution, with short term consideration of express services which serve a reduced number of stops on the Golden Mile.

The operational review has concluded that significant opportunity exists to enhance PT operation on the Golden Mile through a mixture of infrastructure and operational interventions. The most significant of these interventions is the delivery of the Manners Mall project which will address significant bus delay, reliability and legibility issues, while also safeguarding for the enhancement of the Golden Mile PT Spine. Longer term measures relating to the network operational model should be investigated further in conjunction with the GWRC Integrated Public Transport Network Plan.