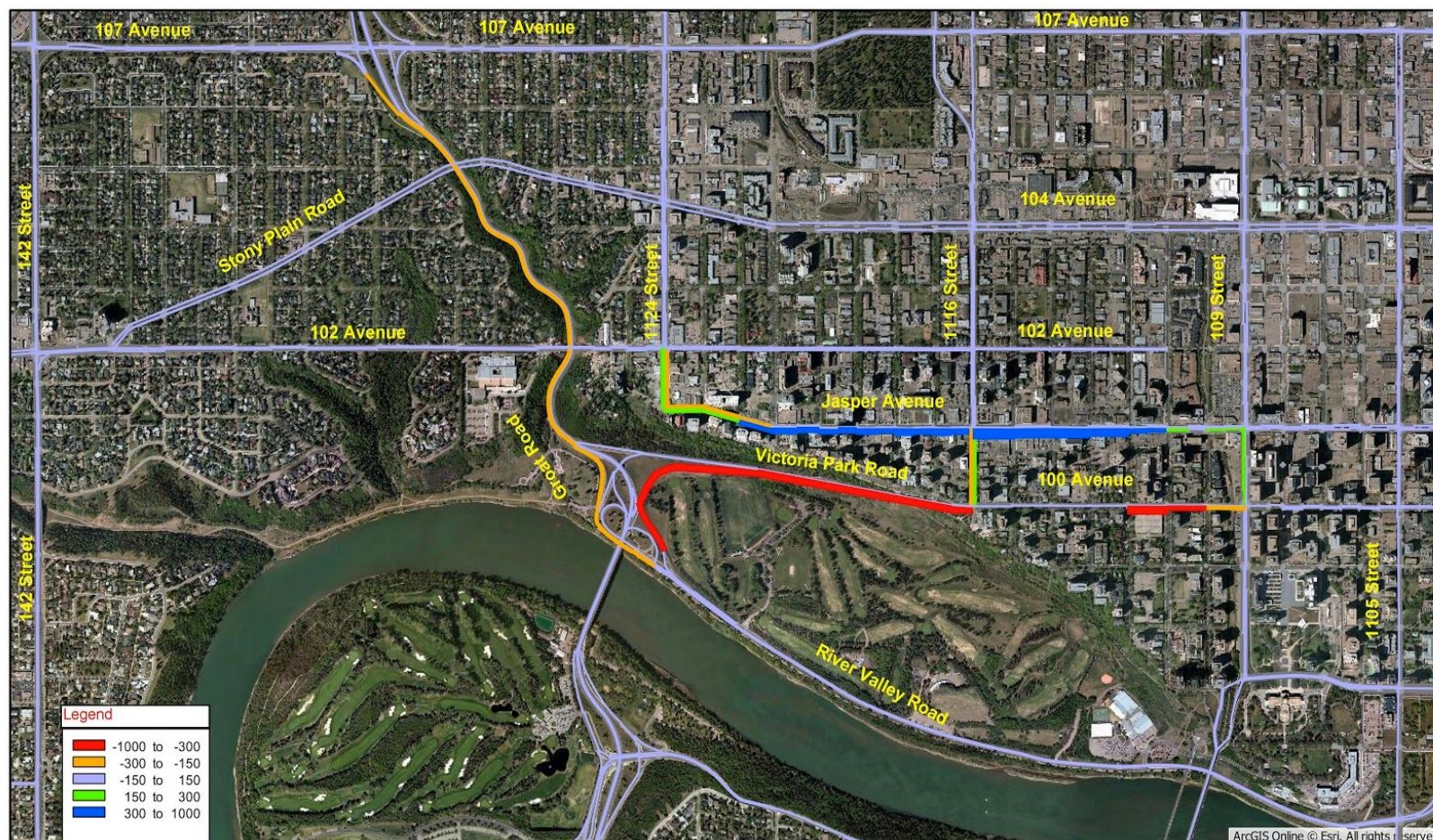


## Scenario Analysis Summary Results (2027 Horizon Year):

		Analysis Criteria				
SCENARIO		TRAFFIC ANALYSIS PERFORMANCE MEASURES				OTHER FACTORS (Compared to Base Case)
		VKT Vehicle km Travelled	VHT Vehicle Hours Travelled	VHD Vehicle Hours Delay	Average Speed (km/hr)	
Base Case: Current Concept Plan	AM	121,800	4,640	2,250	32	
	PM	137,000	5,810	3,100	31	
Scenario 1: Traffic Couplet	AM	122,600	4,700	2,290	32	Business Impacts <ul style="list-style-type: none"> <li>Wayfinding for customer accessing by vehicle is more difficult</li> </ul> Network Operations <ul style="list-style-type: none"> <li>Increased driver confusion with one-way roads</li> <li>Pedestrian travel times are increased, split across two different corridors.</li> <li>Potential for longer travel time for transit users</li> </ul> Safety <ul style="list-style-type: none"> <li>No change from Base Case</li> </ul> Urban Design <ul style="list-style-type: none"> <li>No change from Base Case</li> </ul>
	PM	138,000	6,050	3,310	31	
Scenario 2: Reversible Lanes	AM	122,300	4,660	2,250	32	Business Impacts <ul style="list-style-type: none"> <li>Wayfinding for customer accessing by vehicle is more difficult</li> </ul> Network Operations <ul style="list-style-type: none"> <li>Contributes to driver confusion as a result of dynamic operations</li> <li>Unable to accommodate dedicated left turn lanes (lefts shared with through movement)</li> </ul> Safety <ul style="list-style-type: none"> <li>Potential increase in collisions (potential for drivers to travel in the wrong direction)</li> </ul> Urban Design <ul style="list-style-type: none"> <li>Aesthetic impacts from additional signage and lane control</li> </ul>
	PM	136,100	5,630	2,930	32	

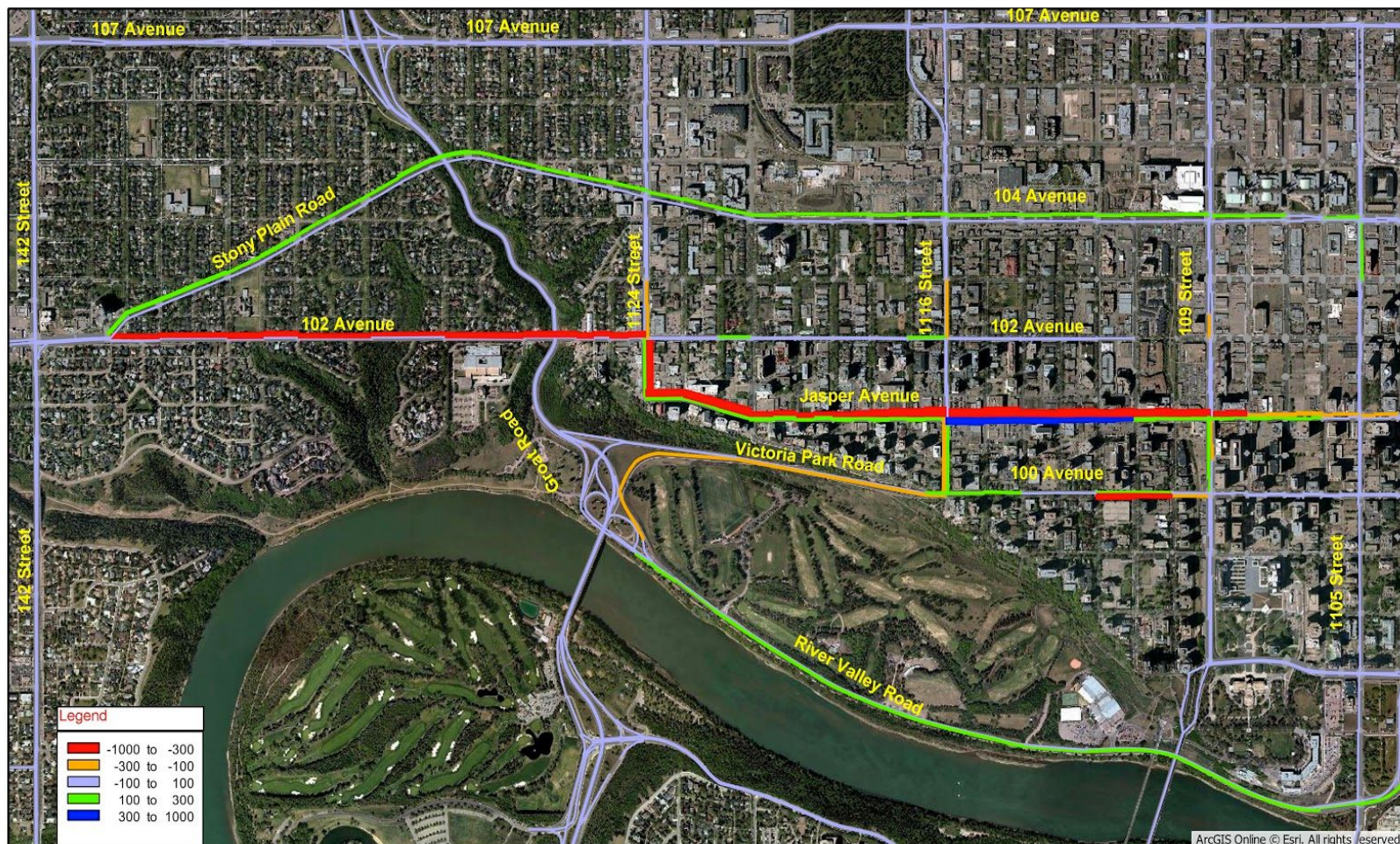
**Scenario 1 - Traffic Couplet:**

**Figure 1 - Traffic Couplet - AM Peak (Volume Difference from Base Case)**

**Traffic Couplet - Morning (AM) Peak:**

- For the one-way couplet, traffic volumes on Jasper Avenue during morning peak hour are balanced in both directions. This creates more challenges to the network as there is no continuous alternative route available for traffic heading west.
- There is a moderate increase of approximately 500 vehicles on Jasper Avenue in the eastbound direction, and concurrently, a similar number of vehicles are reduced on Groat Road and 102 Avenue indicating that travellers will be using different routes of the network rather than increased growth in the traffic.
- Corridor travel time and level of service benefits for vehicle commuters is minimal compared to Base Case (current concept plan) scenario.



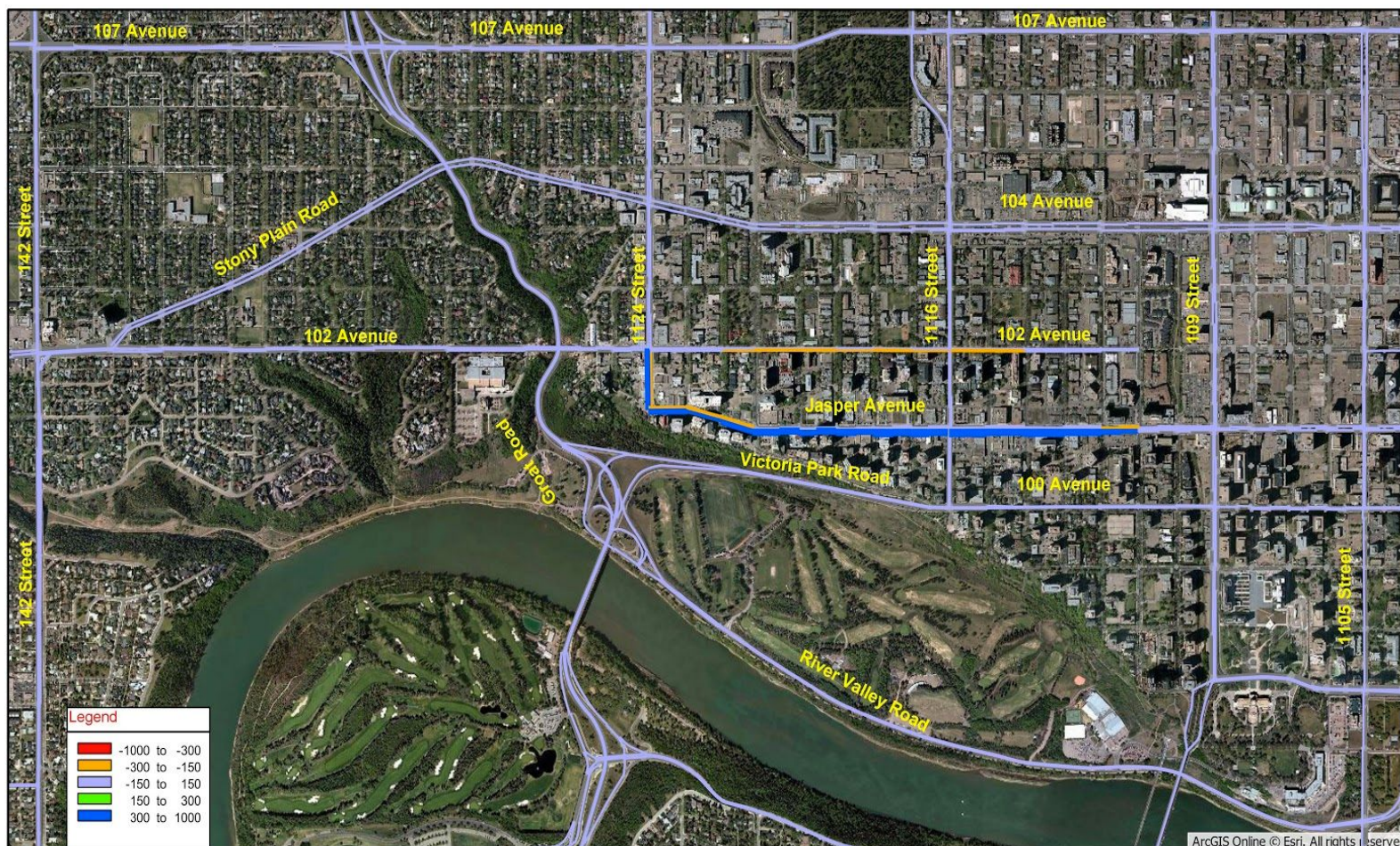


**Figure 2 - Traffic Couplet - PM Peak (Volume Difference from Base Case)**

**Traffic Couplet - Evening (PM) Peak:**

- The traffic impacts are more dispersed in the evening peak hour as Jasper Avenue is only one lane westbound and no other route has sufficient capacity to accommodate the demand in the westbound direction; total vehicle hour delay in the downtown area is expected to increase as compared with Base Case.
- Though 100 Avenue is identified as couplet with two lanes westbound it does not connect to west end to attract traffic and work as a true couplet.
- The number of vehicles using Jasper Avenue will be reduced by 700 per hour. Among them, majority of traffic will divert to use 100 Avenue and 104 Avenue / Stony Plain Road. It will result in further congestion for vehicular traffic along the Valley Line West LRT corridor.
- 100 Avenue is a residential street with parking and, with the traffic couplet scenario, it would be expected to operate as a major traffic route with loss of parking in addition to limited access to residential parkades.
- The traffic couplet impacts travel out of the peak direction, impacting those travelling from University to Downtown during evening peak.



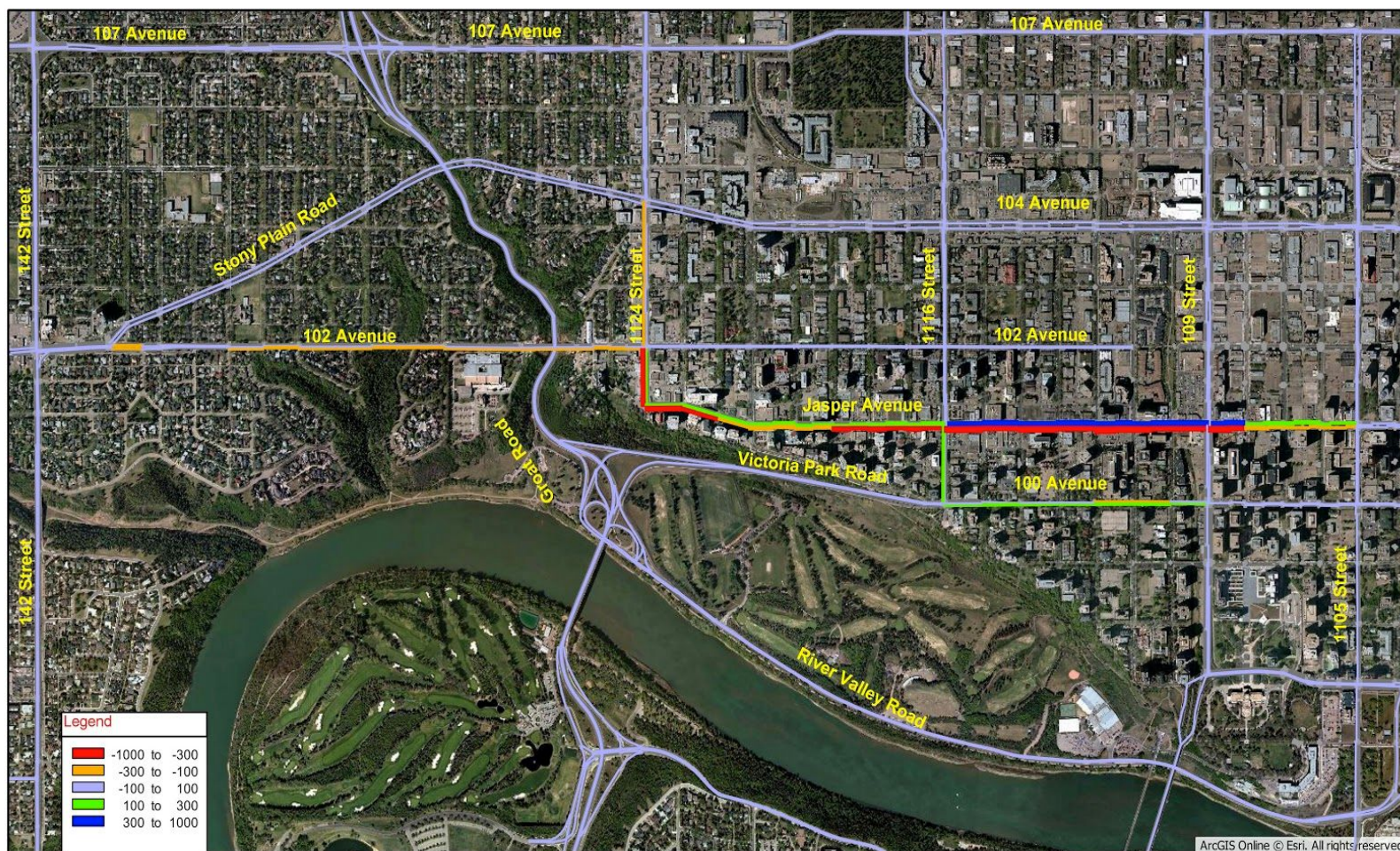
**Scenario 2 - Reversible Lanes:**

**Figure 3 - Reversible Lanes - AM Peak (Volume Difference from Base Case)**

**Reversible Lanes - Morning (AM) Peak:**

- Traffic analysis suggests the reversible lane scenario may carry an additional 400 to 600 vehicles on Jasper Avenue during the morning peak hours.
  - However, it was observed that the increased volume on Jasper Avenue is likely a shift of traffic from adjacent competing routes (e.g. 102 Avenue and 104 Avenue) instead of a growth of traffic in the network.
- The network operations are expected to be relatively stable compared to the Base Case, with minimal changes observed on the overall network operation in the Downtown area.





**Figure 4 - Reversible Lanes - PM Peak (Volume Difference from Base Case)**



**Reversible Lanes - Evening (PM) Peak:**

- Traffic volumes on Jasper Avenue are predominantly balanced in both directions in the evening peak.
- This scenario creates challenges for those travelling counter to the peak direction of travel.
  - There is a significant amount of "out of direction" travel for commuters who want to travel through Downtown from south to north or vice-versa;
- The overall delay (vehicle hours delay - VHD) in the downtown area will be slightly reduced during the evening peak with the application of reversible lanes as compared with Base Case (concept configuration).
- Most of the major east-west corridors will expect minor improved travel time (less than two minutes difference as compared with Base Case)