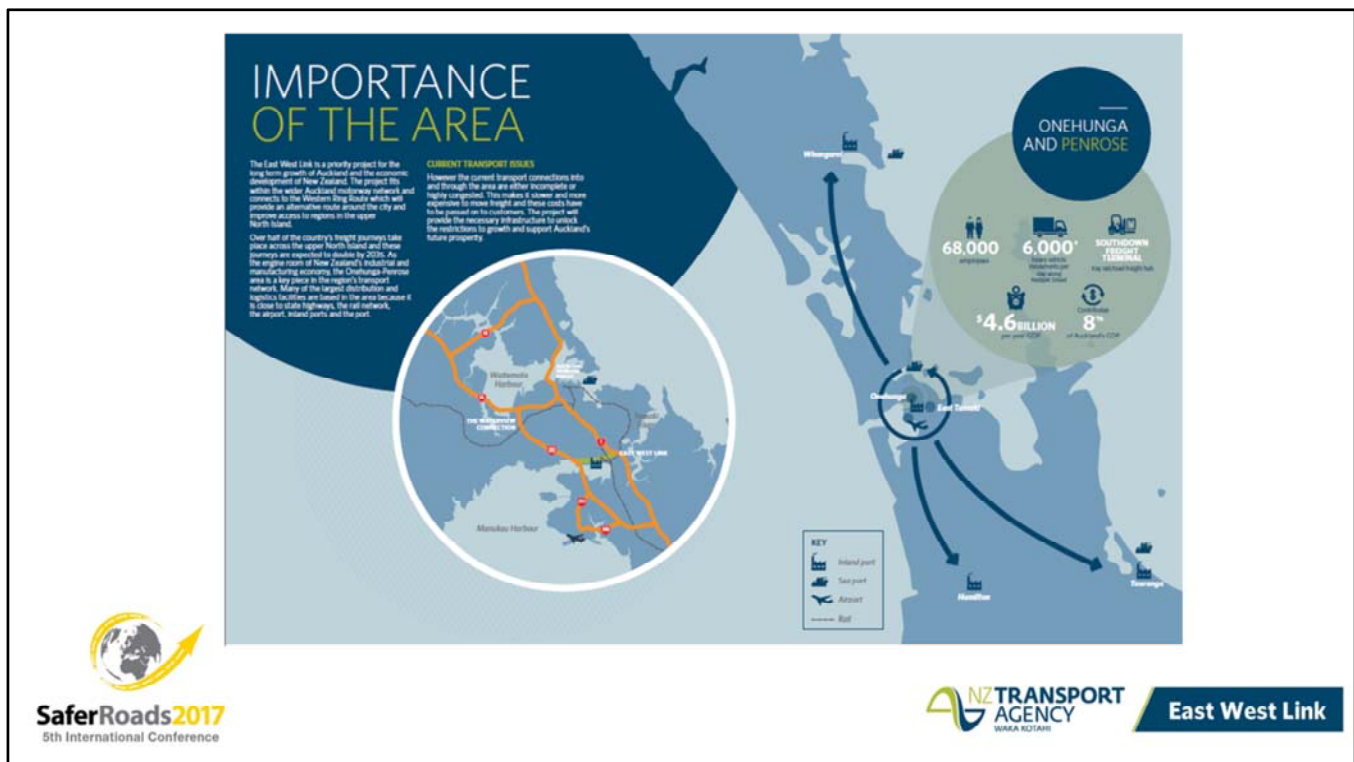


- Notice of Requirement and application for consent was lodged for the project in December last year.
- BOI hearing late June
- If consents granted construction will start early 2018
- new type of state highway that improves safety for all modes of transport while providing opportunities for significant environmental enhancements.
- This is not a motorway but a 4 lane arterial road, and needs to balance travel time efficiency with the need for public access across and along the corridor.
- The East West Link (EWL) is a new 6.5km state highway between SH1 and SH20 on the northern edge of the Manukau Harbour. It also includes

widening of SH1 between Mt Wellington Interchange and the Princes Street Interchange with a new lane in each direction, (refer attached sketch).



- To put the location in context
- Geographically, the Project is located at the narrowest isthmus of New Zealand, and approximately in the centre of the Auckland urban area.
- It is bound on the west by the Manukau Harbour and the east by the Tāmaki River.
- The geography of the area has shaped land use, economic activity and the movement/transmission of goods and utilities through this area over time.
- Just like in pre European times. It is a key industrial, transport and

logistics hub

- The GDP and jobs generated by the area are significant and in 2012, the direct Project area accounted for approximately \$4.7 billion of output, or 7.5% of Auckland's total GDP
- The area also represents a significant proportion of the city's employment and it is one of Auckland's principal manufacturing locations, accounting for 17.9% Auckland's, and 5.9% of New Zealand's manufacturing jobs.
- It also acts as a major hub for transport and logistics for Auckland and the upper North Island with 19.7% of Auckland's and 9.1% of New Zealand's employment in transport and wholesaling..
- The area is retaining its distinctive character as an industrial and transport oriented stronghold, as the more transport intensive activities are growing too. Distribution activity is compensating for a decline in manufacturing, reflecting the area's function as a specialised regional distribution centre.
- An increasing level of specialisation within the transport and logistics sector can be observed from the growing concentration of road and rail freight activities around Westfield and Southdown. You may not know but there is an inland port here

## Project Objectives

### East West Link

- **Improve travel times and travel time reliability between businesses in the Onehunga–Penrose industrial area and SH1 and SH20.**
- **Improve safety and accessibility for cycling and walking between Māngere Bridge, Onehunga and Sylvia Park and access into Otahuhu East.**
- **Improve journey time reliability for buses between SH20 and Onehunga town centre.**



**SaferRoads2017**  
5th International Conference



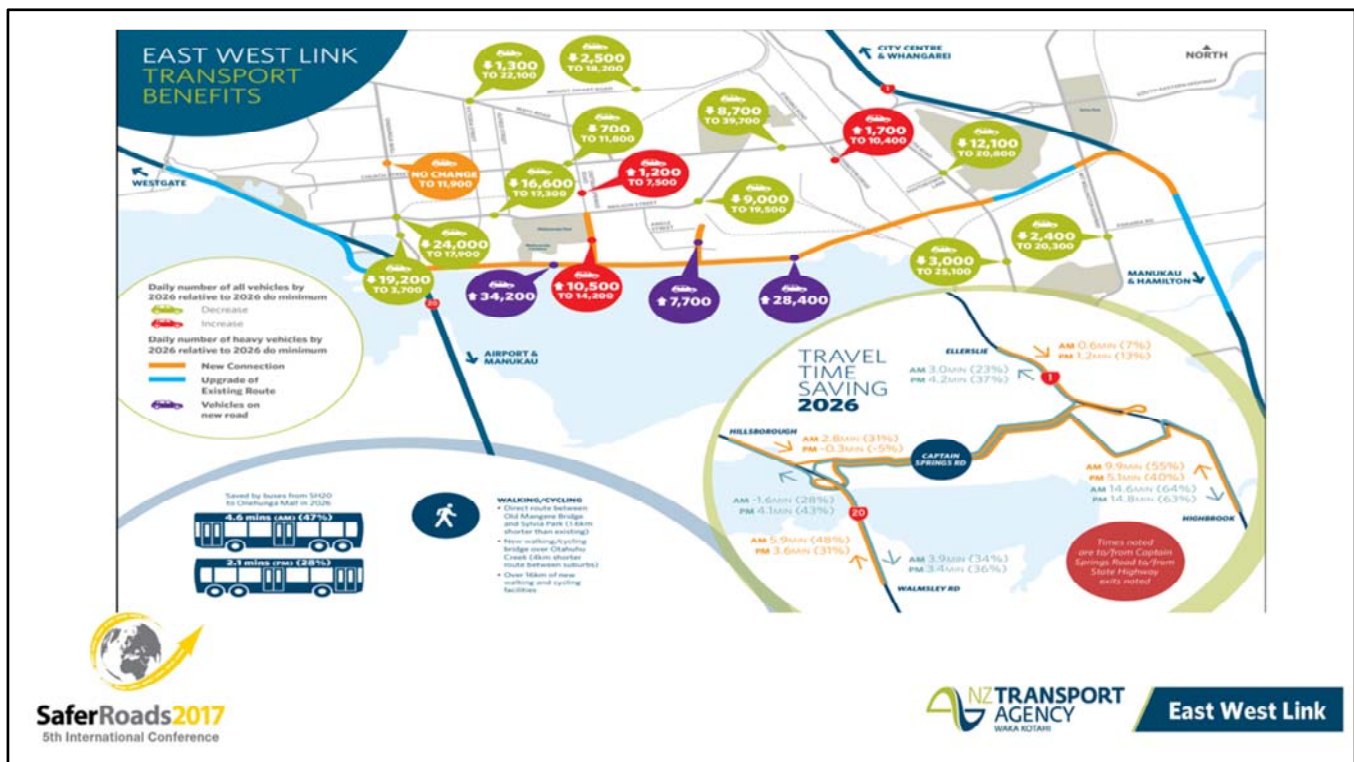
**East West Link**

The Project Objectives were developed initially as part of the Indicative Business Case following confirmation of the transport problems. They are listed below

- **Improve travel times and travel time reliability between businesses in the Onehunga–Penrose industrial area and SH1 and SH20.**
  - A rung in the ladder between SH20 and SH1 that is not its primary objective. The key issue is to provide better access in and out of the industrial areas to the motorway networks
- **Improve safety and accessibility for cycling and walking between Māngere Bridge, Onehunga and Sylvia Park and access into Otahuhu East.**
  - The opportunities that this project provides to improve walking and cycling connections are recognised and the extension of the existing Waikaraka path through to Sylvia Park will greatly enhance the facilities for the active modes
- **Improve journey time reliability for buses between SH20 and Onehunga town centre.**

Improvements including more reliable journey times for public transport

will be achieved by providing a separate bus lane for the southbound on ramp at SH20 and reducing congestion on the northbound off ramp from SH20.



## Transport Benefits

With those objectives in mind what will the project achieve?

- The Green bubbles represent a reduction in traffic
- By providing a new road corridor the number of heavy vehicles on the local roads in and around Onehunga will reduce, thus making it safer and less congested for all users.
- The Project area is currently very congested throughout the day.
- The existing route between the Onehunga Penrose area to SH1 particularly south bound is very circuitous, requiring traffic to **negotiate 7**

**or 8 sets of traffic signals**

- On completion of the EWL this will reduce to **2 or 3 sets of traffic** signals.
- For SH20 the existing route requires all traffic whether southbound or northbound to pass through the **Neilson Street Onehunga Mall intersection**, on completion of the EWL traffic numbers will reduce by around **24,000 VPD**.



## Mangere Inlet (1940)



**SaferRoads2017**  
5th International Conference



**East West Link**

The Mangere inlet in the 1940's

To give some background the Mangere Inlet in the 1940's looked quite different to how it looks today. Since that time Auckland has used it for its dumping ground and the natural coastal edge has been engineered to the more straight edge it has today. The approximate area reclaimed through filling for landfills is 180Ha. The proposed reclamation is 18.4 Ha.

Figure 2-1: Photograph of Pikes Point 1975



**SaferRoads2017**  
5th International Conference



**East West Link**

Historic landfills being constructed. This is the Pikes Point West Landfill.

## Mangere Inlet (2017)



**SaferRoads2017**  
5th International Conference



**East West Link**

The existing Coastal edge, with a recreational reserve with the shared path that is well used by the public. The reclaimed area is being used for industry and distribution.

**CONCEPT**

■ Existing State highway  
 ■ East West Link  
 ■ Existing local road

- - - - Existing rail line  
 - - - - New or upgraded path

■ New intersection  
 ■ Upgraded existing intersection

■ Treatment wetland  
 ■ Coastal edge

**A** New four lane arterial road  
**B** SH1 widened  
**C** Upgrades to the Nelson St Interchange  
**D** A full pedestrian and cycling link  
**E** Local road connections  
**F** Grade separated intersection at Great South Road  
**G** Coastal edge of Māngere Inlet  
**H** Treatment wetlands



## East West Link

The EWL alignment crosses a number of **differing environments** requiring the road to adapt to suit the various needs it has to meet.

- Providing a state highway that meets all the **competing requirements along the foreshore** has been a challenge. I suspect the current design is a work in progress. I have listed a few of the key stakeholders we have consulted with to develop the current design:

- 8

Each of these stakeholders wants something different for the road and often they are in conflict with one another.

## An integrated solution



**SaferRoads2017**  
5th International Conference



**East West Link**

An integrated solution is required in this location

### The Slower Speed Environment

- The Mangere Foreshore section of the EWL is approximately 3km long and generally straight.
- To establish a slower speed environment (possibly posted at 60kph) requires the inclusion of infrastructure so that motorists “feel” they are in a slower speed environment.
- Through the design development there was a **real tension between trying to provide a strategic transport link** with a specific focus on access for freight and the need to provide **high quality access across the EWL** and along the foreshore.
- There was a measures we have included are:
  - Signalised intersections at regular spacings
  - At grade pedestrian crossings
  - Planted median
  - Paths on each side of the road
  - Threshold treatments
  - Shoulder width reductions

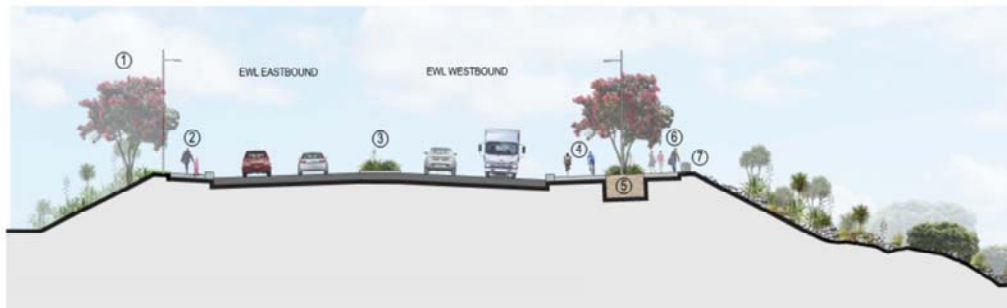
One area of safety concern has been the need to provide a safe facility for cyclists,

particularly as this road will have a higher percentage of heavy vehicles, this is why a high quality commuter path separated from pedestrians has been provided along the southern edge.

**Exciting additional opportunities**

As part of constructing the EWL in this coastal location the opportunity to create a more natural coastal edge is provided. Within these new landforms area has been created to treat stormwater from the wider catchment, this was a key factor in gaining support from Mana Whenua, as reclamation is something they generally will not support. Another opportunity provided by the EWL embankment is the containment and possible treatment of leachate from the historic land fills.

## Typical Section of the Embankment



- |                            |   |
|----------------------------|---|
| ① Pohutukawa street tree   | ⑤ Pohutukawa street tree + low planting |
| ② Footpath                 | ⑥ Footpath                              |
| ③ Planted median           | ⑦ Stone edging                          |
| ④ Bi-directional Cycle way | ⑧ Boardwalk                             |



**SaferRoads2017**  
5th International Conference



**East West Link**

### Typical Section of the Embankment

As discussed previously, the requirement for the road to fulfil different roles has been a collaborative process.

The proposed typical section allows for the following:

- 4 lanes of traffic
- 3m planted median
- 3m bi-directional commuter cycle path on the coastal edge
- Pedestrian path separated from the commuter path by a landscaped area on the coastal edge
- Pedestrian path on the inland side
- A boardwalk in the coastal marine area



## Eastern Section of the EWL



**SaferRoads2017**  
5th International Conference



**East West Link**

### The Eastern Section Of the EWL

- The Structure from the Mangere Inlet to Sylvia Park Road is 1.5km in length.
- A shared path will be constructed along side the viaduct and the pass over Great South Road on a separate structure.
- This section of the EWL **will have a motorway feel to it, with median and edge barriers**. The traffic signals at Hugo Johnston Drive will require eastbound traffic to stop when the right turn phase is called however westbound traffic remains free flowing as there is no right turn out of Hugo Johnston Drive.

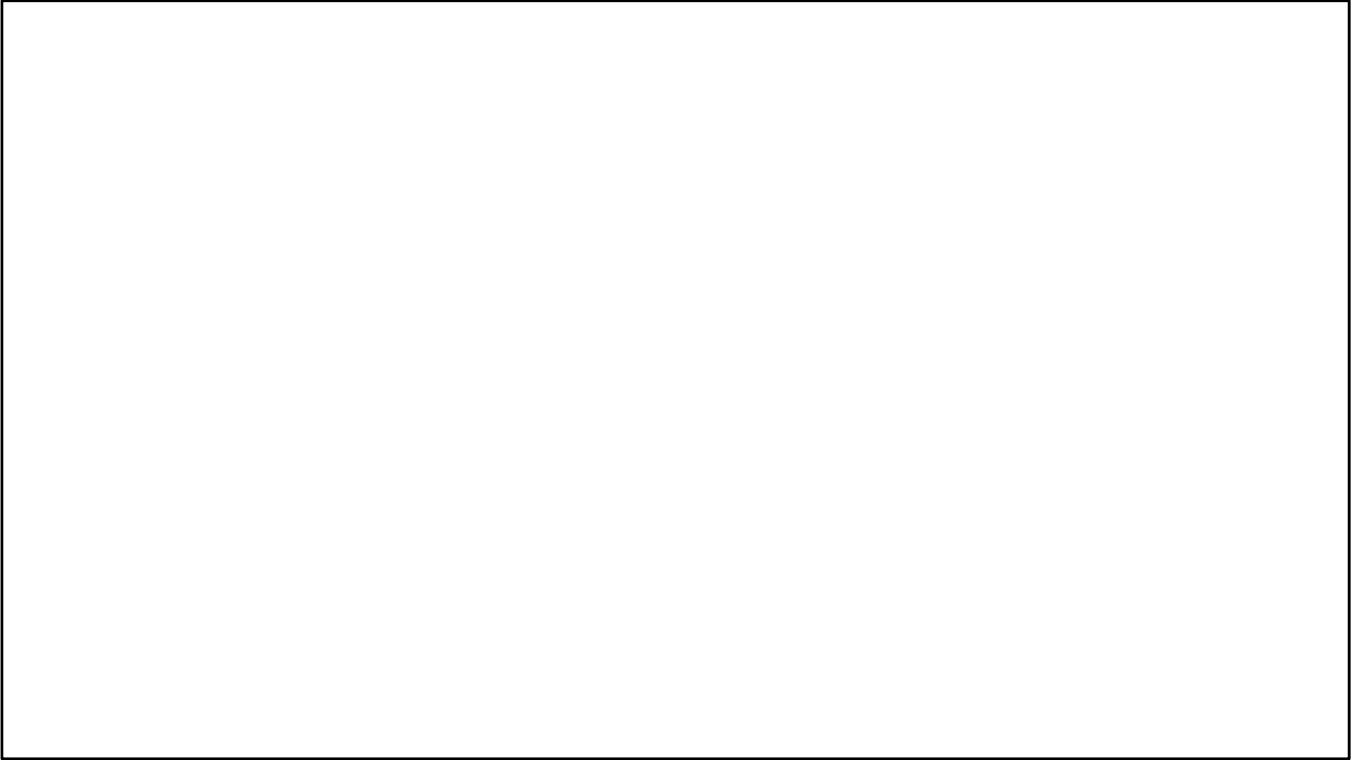
# East West Link Visualisation



**SaferRoads2017**  
5th International Conference



**East West Link**





**SaferRoads2017**  
5th International Conference



**East West Link**