Media Background Material and Q&A

In response to the community's desire for more of the Waterview Connection project, to be put underground, Transit is proposing a tunnel as its preferred option.

The Waterview Connection will complete the Western Ring Route, providing an alternative route around Auckland.

It will join SH20 at Mt Roskill with the northwestern motorway (SH16) at Waterview, the last remaining piece of the Western Ring Route. This will allow traffic to leave SH1 at Manukau and travel on a motorway all the way north to SH1 at Greenhithe or vice versa.

The ring route will reduce reliance on the southern motorway (SH1) and the harbour bridge and keep through-traffic out of the CBD and off local roads. It'll reduce emissions by eliminating stop start driving caused by congestion and rat running in local streets to get to and from SH16 and the south. It will eliminate the end to travel through about eight sets of traffic lights on a typical journey.

Completing the Western Ring Route will make travel times more reliable, increase accessibility to key employment and residential areas and provide significant economic benefits.

Economic benefits of project

- Wide ranging potential employment effects
- Up to 18,000 new and relocated jobs generated in areas with improved accessibility brought about by the Waterview Connection
- Increased accessibility to and between major employment areas such as the CBD, Rosebank, Westgate, the airport and Manukau city
- Reduction in travel times
- Increased productivity
- Potential increase in GDP between $0.8b and $1.7b
- More efficient movement of goods

What's Proposed

- 4.5km long motorway that connects SH20 to SH16
- 3.2km in tunnel
- Twin two-lane tunnels built side by side
- 20 to 40 metres (seven to 13 storeys) below ground
- Total expected cost of $1.89b in 2015 dollars.
- Aiming for a 2015 completion date

Why a tunnel?

- Significant reduction in social and environmental disruption
    - Construction effects limited to portals and interchanges
    - Reduces effects on parks and reserves
    - Minimises effects on Oakley Creek
    - Reduces impacts on peoples homes
    - At least 300 fewer properties required

- Shorter and more direct route

How would it be built?

Design work is not finalised but the tunnel is likely to be built using a tunnel boring machine (TBM). This first excavates the tunnel and then installs a pre-cast concrete tunnel lining as it goes so the tunnel is not left unsupported. The excavated earth is removed on a conveyor before being trucked away for disposal. The TBM will operate about 20 hours a day, six days a week.

How safe is a tunnel both to build and drive in?

We believe it's very safe. Tunnels are becoming more and more common in cities around the world and tunnelling technology is getting more sophisticated. This international experience would be used to build the Waterview Connection project. We've done extensive geotechnical investigations and the alignment of the tunnel is planned accordingly.

The tunnel would have an operations centre to oversee what's happening in them at all times via closed circuit cameras. There would also be traffic advisory notices for motorists on electronic signs. Each tunnel would have significant safety features. These include lighting and a ventilation system to maintain steady airflow and air quality. There would be deluge sprinklers in case of a fire as well as fans to suck out any fumes or smoke. The tunnels would have emergency pedestrian exits from one to the other.

How many properties would you require?
About 160, mostly at the portal areas.

What would happen to those people?
We would negotiate to buy properties at market value and pay legal fees or other costs associated with the process.

How will the project affect people who'll end up living above the tunnel
If a tunnel is built, then they will feel some vibration for 2 or 3 days while the TBM passes beneath their property and there might be some slight settlement, but once the tunnel is completed they wont be able to feel or hear traffic beneath them.

What will the construction effects be like for people living near the two ends?
Like any major infrastructure project in an urban area there will be noise, dust, local traffic diversions and more big trucks on the road. This is all sometime ahead and effects will be subject to resource consents. Transit will ensure there are construction management plans in place to minimise disruption and we will gain input and feedback on the construction process, and work with local residents to resolve any issues.

How will the project connect to other roads?
Traffic will be able to enter and exit from the northwestern motorway in both directions, Auckland city in the east and Waitakere in the west. In the south at Maioro

Street there will be on and off ramps in both directions for traffic to enter or exit at Stoddard and Richardson Roads.

Will four lanes be enough?
Peak congestion in Auckland is a big problem and population and car numbers are increasing every year. It's impossible to build our way out of that problem. The answer is a combination of a better roading network as provided by the Western Ring Route combined with improved public transport and rail and a change in commuter choices. We believe four lanes is the best way to merge with the northwestern motorway and not create more congestion problems elsewhere. Travel demand measures like ramp signalling will be a permanent part of traffic management in Auckland.

Travel demand management
Congestion is a growing challenge in Auckland and the suite of travel demand measures available include ramp signalling, variable messages or tolls.

One of the issues to be considered in relation to the tunnel is that it is four lanes and cannot be expandable to six. Transit has investigated this issue extensively and our view is that restricting the tunnel to four lanes is the best way to merge with the northwestern motorway and not create more congestion problems elsewhere.

Long term, the solution to congestion is a combination of:

- a more robust road network (the Western Ring Route)
- improved public transport, including rail and bus services
- a change in commuter choices

What are the main traffic effects of the project?
Provide a high standard extension from the South-western Motorway (SH20) to the North-western Motorway (SH16);
Help reduce traffic on SH1, including 'spaghetti junction' by completing an alternative route through greater Auckland;
Link Waitakere, Auckland and Manukau cities;
Improve access to/from the west and Auckland International Airport;
Take traffic off some local roads;
Provide through traffic with more reliable travel times.

How does this project fit with public transport objectives?
Taking business freight and other through traffic off other roads will free them up for improved public transport as well as reduce rat running in residential streets. The project has been designed with the future expansion of the Avondale Southdown line in mind and provides for this and any electrification of the line.

The tunnel means there'll be no disruption to existing pedestrian and cycle links.
At the southern end of this project area, the Mt Roskill cycleway (under construction) will be extended to connect with Richardson Road.

The extension of Maioro Street to connect with Stoddard Road will provide a new pedestrian connection between New Windsor and Mt Roskill/Wesley. There are also opportunities to provide a walkway along Oakley Creek

Project History

- 2000 consultation on issue and route identification
- 2002 a shortlist of route options was released
- 2003 these were reduced to two draft options released for comment
- Feb 2006 Transit confirmed its preferred alignment from Maioro Street to Waterview
- Mar 2006 the community asked for further under grounding
- July 2006 Transit agrees to investigate feasibility of this
- 2007 investigation of ground conditions, design and construction possibilities
- 2008 Transit proposes tunnel as preferred option