greater WELLINGTON
REGIONAL COUNCIL

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Committee Regional Land Transport
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Regional Transport Model Update

1. Purpose

To brief the Committee on the changes in the regional transport statistics generated following the recently completed update of the Wellington Transport Strategy Model (WTSM).

2. Significance of the decision

The matters for decision in this report **do not** trigger the significance policy of the Council or otherwise trigger section 76(3)(b) of the Local Government Act 2002.

3. Background

3.1 Overview

WTSM is a multimodal strategic model of the Greater Wellington Region, which forecasts changes in the transport system given changes in demographics, employment, transport-related costs, infrastructure, and the public transport system at a strategic level. A transport model for the region was initially developed in the 1980's, and has been continually updated as better information has become available (typically every 5 years to coincide with the Census).

The model is a policy tool used to inform local (more detailed) road models, corridor strategy studies, the Regional Land Transport Strategy, as well as providing other strategic information.

3.2 Update Process

Sinclair Knight Mertz (SKM) was engaged to update the Wellington Transport Strategy Model (WTSM) over the last 18 months. Primarily, this update involved bringing the model to a 2006 base year (previously 2001) using the latest Census information, and revising future year demographic and

employment forecasts based on the Statistics New Zealand December 2007 projection release.

Other updates to the model have also been undertaken; including:

- Updates to road and public transport networks to 2006
- Review and updating of model cost parameters (including fares, vehicle operating costs, values of time, CBD parking charges)
- Updates to the car ownership and heavy commercial vehicle forecasting modules, based on the latest count information and forecast GDP growth.

The model has been extensively peer reviewed by transport model specialist Arup consultancy and signed off as being fit for purpose.

4. Comment

The Wellington Region's Transport infrastructure is going to be under increasing pressure over the next twenty years, due to increases in population and employment. Increasing affluence is expected to result in the trends of increasing car ownership and heavy commercial vehicle (HCV) use.

4.1 Assumptions

The situation presented here is based on a medium growth population and employment forecast. Only committed transport projects are included in the modelling; these are:

- Dowse to Petone interchange
- Kapiti Western Link Road (stages 1-3)
- Otaki roundabout
- Paekakariki SH1 intersection
- TDM schemes
- Electrification of rail to Waikanae
- Replacement of existing rail rolling stock

There are other more minor projects that are committed which cannot be modelled in WTSM.

Fuel/car prices, public transport fares and parking charges are assumed to remain at 2006 levels in real terms. The model has the functionality to investigate the impact of real fuel price, fare and parking cost changes. For fuel, any changes will be affected by the price at the pump, inflationary pressures, and the future fuel efficiency of the vehicle fleet operating in the region.

4.2 Population

There has been population growth of 25,300 (6%) in the region between 2001 and 2006, with the highest levels of growth seen in Wellington City (15,700 or 10%), Kapiti Coast District (3,800 or 9%), and Upper Hutt City (2,000 or 6%). Other areas have experienced more moderate levels of growth.

Under a medium growth scenario, population throughout the region is projected to increase by 55,000 (12%) by 2026, with the number of households increasing by 38,500 (23%). Household numbers will increase at a higher rate than population growth over the same period due to smaller average household occupation (consistent with an ageing population and more single parents). The largest growth will be seen in the Kapiti District and Wellington City, with more modest growth over the rest of the region.

These latest growth projections are significantly higher than projections previously used in the model (which resulted in only 4% growth in population between 2006 and 2026 under the previous medium growth scenario). This is due primarily to a more optimistic outlook from Statistics New Zealand on the region's growth.

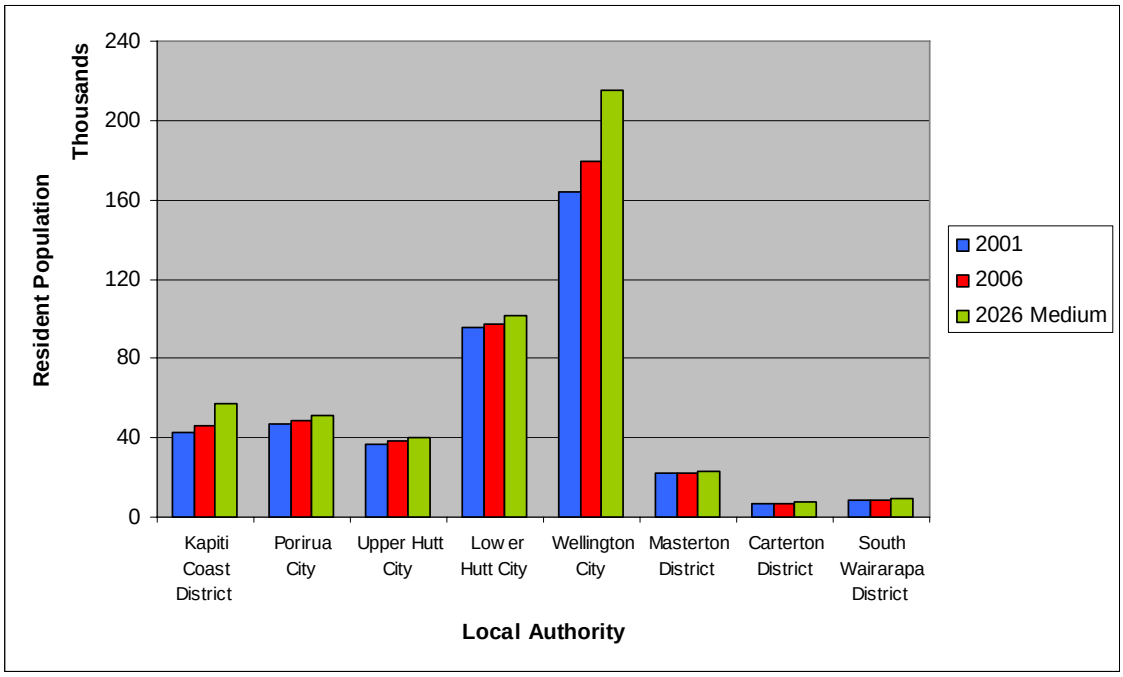

Figure 1: Local Authority Usually Resident Population

4.3 Employment

Employment in the region has also grown by 20,000 (9%) between 2001 and 2006, with the highest levels of growth in the retail (6,900 or 16%) and services (12,600 or 10%) sectors. There has been a reduction in the smallest segment of transport and communication (-1,300 or -11%) sector.

In line with the economic development aspirations set out in the Wellington Regional Strategy, employment within the region is also projected to increase substantially. Jobs are forecast to increase by 50,000 (21%) to 2026. These will be spread broadly in line with the current pattern of employment (with the Wellington City CBD dominant).

These latest employment projections are also significantly higher than projections previously used in the model, which showed a 2.8% increase in jobs to 2016, and then a decline to 2026 which was marginally higher than 2006.

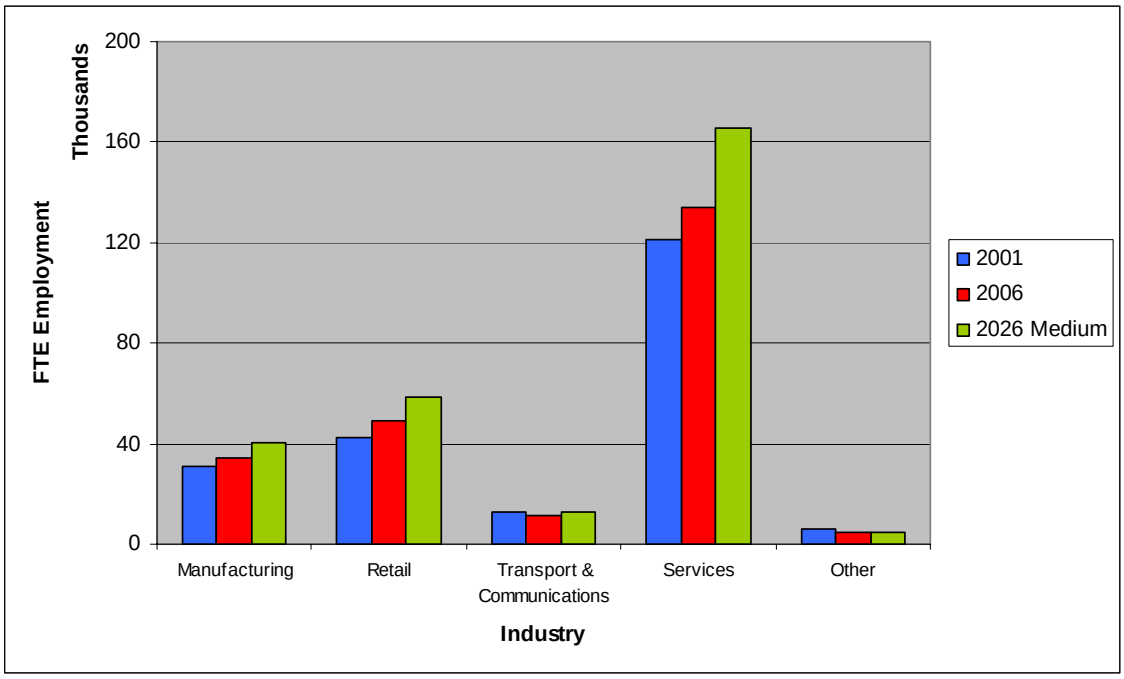

Figure 2: Employment by Industry

4.4 Travel Demand

Changes in population and employment have contributed to an increase in the number of trips made in the region, with 122,000 more trips per day between 2001 and 2006 (increase of 7%). All trip purposes see growth above 1%pa.

Car ownership is predicted to increase, driven by continuing economic growth, from 0.57 cars per person in 2006 to 0.67 cars per person in 2026 (assuming no change in real car costs). More households are likely to have two or more vehicles, and there will be a reduction in the proportion of households not owning a car. Evidence suggests that a household owning more vehicles makes more trips per day.

In 2026, increases in population, employment, and car ownership will generate 270,000 (15%) per day more trips within the region than currently experienced. This growth in daily trips is almost twice as high as the rate implied in the previous model (around 9% between 2001 and 2021).

The biggest contributor to future trip growth are commuting and business trip purposes, which will grow at just over 20%. Education trips will fall by around 4% due to a reduction in the school-aged population.

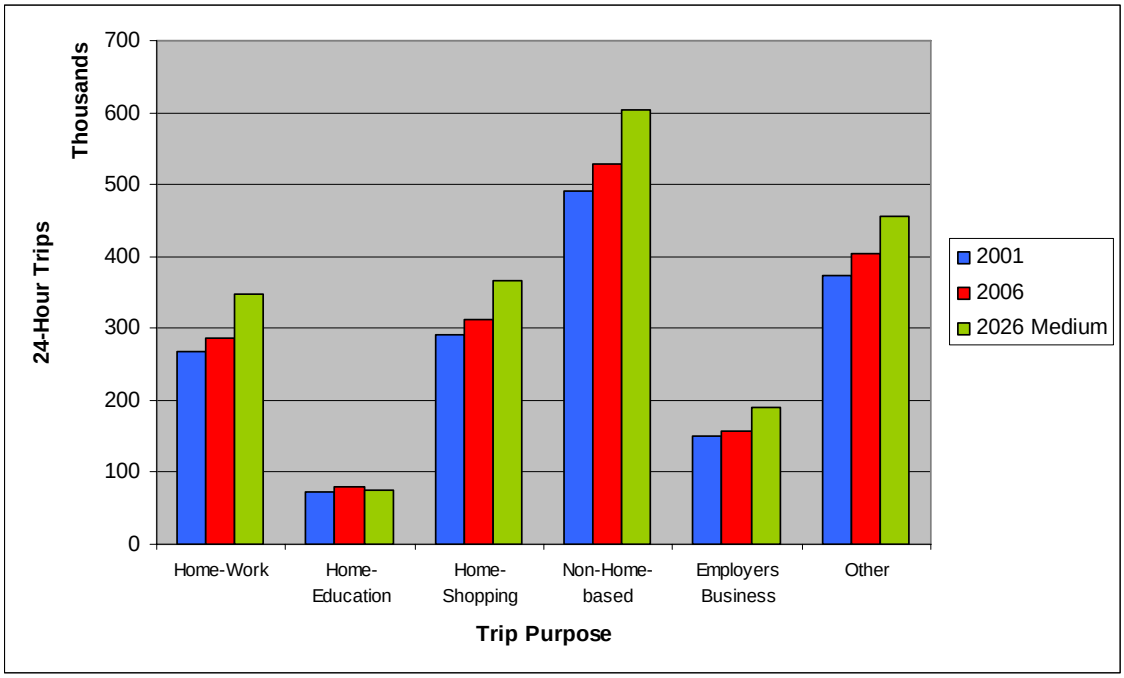

Figure 3: Trips by Purpose

Car driver trips for an AM peak (7am-9am) increased by 14,000 (10%) between 2001 and 2006. Public transport has experienced stronger growth in the AM peak of 3,500 (13%), while heavy commercial vehicles more modest growth of 500 (5%). As a result of increased traffic on the roads, average network speeds in the region for the AM peak have reduced slightly from 48km/h in 2001 to 47km/h.

Assuming only the committed improvements outlined in the assumptions section above, average road speeds in the morning peak will reduce from 47km/h as currently experienced to 41km/h in 2026. This reduction in average road speeds is over twice as high as implied by the previous model between 2001 and 2021. Travel times around the strategic network in the morning peak will particularly increase, with the Waikanae to Wellington CBD time increasing by around 35%, and Upper Hutt to Wellington CBD by around 10%.

An increase in heavy commercial vehicles will place additional pressure on the road network, with an 85% increase in heavy commercial vehicle trips between 2006 and 2026. This growth is strongly correlated to economic growth, and is significantly higher than the previous model (around 34% between 2001 and 2021).

Rail passengers in the morning peak will increase by around 4,400 (35%) with the introduction of new rolling stock and electrification to Waikanae. Bus passengers will increase by a more modest 750 (4%) over the same period. Overall, public transport mode share remains the same as in 2006, comprising

around 17% of morning peak travel, and 6% of inter peak travel (compared with private car).

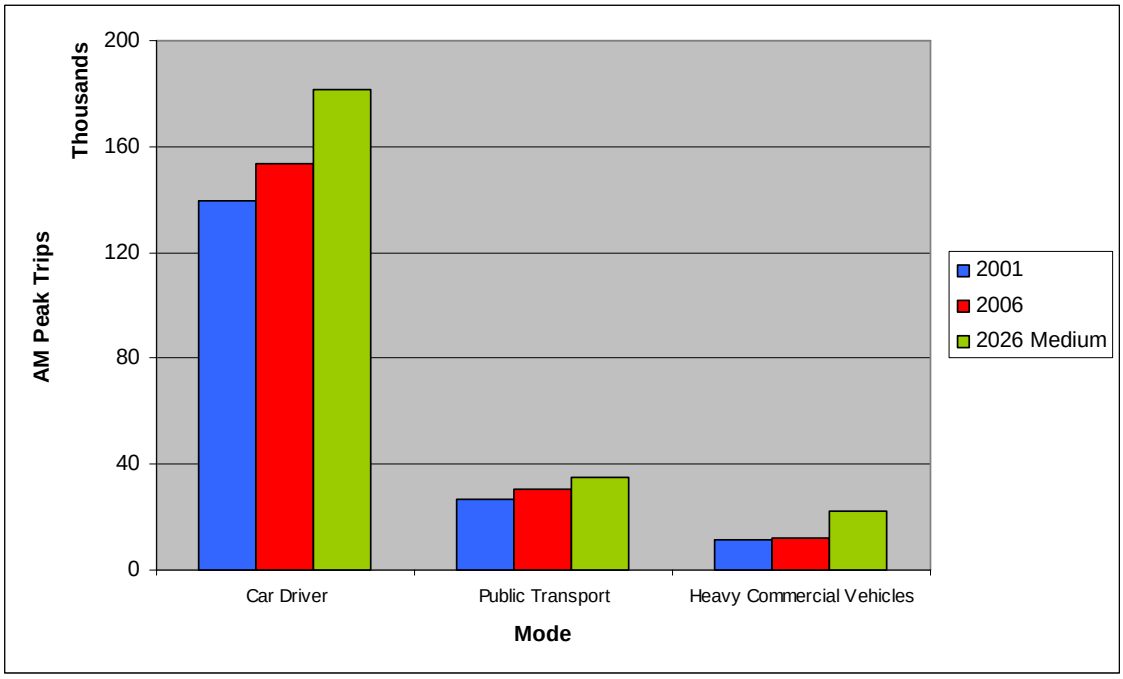

Figure 4: AM Peak Trips by Mode

Overall the impacts presented are slightly larger than previously forecast and reflect the increased population and employment assumptions.

Projects included in the Regional Transport Programme (not included in the "committed" list) will improve the future situation.

5. Application of the Updated Model

The updated model will be used to inform the Ngauranga to Airport corridor study over the next few weeks. It will also be used to update various corridor plans and inform the development of the new Regional Land Transport Programme.

6. Communication

A workshop with officers from the territorial authorities, Ministry of Transport, Land Transport New Zealand, Transit, Wellington Chamber of Commerce, is planned for 7th April to discuss in more detail the model update process and the results from initial forecasting.

A presentation on the model will also be given at the RLTC meeting on the 9th April.

7. Recommendations

That the Committee:

1. ***Receives** the report.*

2. ***Notes** the content of the report.*

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