ATPM Victorian Branch Technical Forum

Public Transport Major Projects

Wednesday 29th July 2009, 5:00pm – 6:30pm
Department of Transport Theatrette, 121 Exhibition Street, Melbourne

Our speakers today are...

Frank De Santis  Project Director – Eastern Projects, VicRoads
John O’Connell  Project Director, Department of Transport
Shaun Smedley  Manager Traffic and Transportation, GHD Pty Ltd

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**Presentation 1**

**NUNAWADING STATION REDEVELOPMENT**

(Springvale Road Grade Separation)

The Springvale Road level crossing is one of the busiest in Melbourne. More than 50,000 vehicles, 218 trains and around 5,000 pedestrians share this space every day at this location.

This project is the first in the Victorian Transport Plan to be upgraded under the Road Rail Separation Program.

The presentation will cover the project objectives, some of the challenges faced and what the project team is planning to achieve.

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**Presentation 2**

**SOUTH MORANG RAIL EXTENSION**

The Epping to South Morang Rail Extension is much more than a 3.5-kilometre extension to the existing rail network. Apart from including the duplication of the track from Keon Park to Epping, its scope is significant and its interfaces are numerous.

Construction starts in 2010, enabling a better connection for the people of the Whittlesea growth corridor to high quality Public Transport supported by the community.

This presentation covers some of the challenges in planning for this project.
Springvale Road Rail Separation Project

Frank De Santis, Project Director, Eastern Projects
AITPM Seminar
29 July 2009

Project background

- 50,000 vehicles, 200 trains and 5,000 pedestrians use this intersection every day.
- 50 crashes and 1 fatality in the past 5 years.
- Level crossing has ranked the highest risk of all level crossings in Victoria (Australian Level Crossings Assessment Model, May 2008).
Project background – continued

Many studies have been undertaken:
- Whitehorse City Council commissioned a study to look at the feasibility of grade separation in 2004
- Department of Infrastructure undertook a study in February 2007
- Federal Government funded a study for improvements at Springvale Road/Whitehorse Road
- Business Case prepared in late 2008

Project background – continued

- A number of options were examined.
- Lowering the Belgrave/Lilydale rail lines under Springvale Road was most suitable option.
- Business case recommended this option
  - Short timeframe to develop scope
  - Involvement of variety of stakeholders
Project benefits

- Improve road safety through the intersection
- Improve road user access and reduce congestion
- Improve amenity for local users of the road and train facilities
Project scope

- Remove the rail crossing by lowering the train lines below Springvale Road.
- Re-location of existing station and upgrading it to Premium Station status:
  - better facilities, e.g. disabled lifts and station staffed from first to last train.
- New pedestrian underpass.
- Construction of a new road bridge at the same level as Springvale Road.

Concept plan
Project status

- Funding was announced in April 2009
- Springvale Road Rail Alliance formed in 10 June 2009
- Project offices established on site 15 June 2009
- Construction site compounds are being established
- Detailed design and proposals are pending
- Early works in rail corridor are well advanced
- Major service relocations along Springvale Road have commenced
- Major construction works to commence August 2009
- Expected completion date is early to mid-2010.

Platform proposal
Proposed underpass perspective

Impacts during construction

- Average 35,000 to 40,000 train passengers
- SmartBus and regular bus routes utilise Springvale Road.
- Rail line shutdowns during construction will require significant temporary bus services
  - Alliance will work with rail operator to keep commuters informed
- The Alliance will implement traffic management plans to mitigate congestion caused by construction.
- Traffic congestion on Springvale Road will delay public transport.
- Traffic management / road closures will impact bus routes in the area – e.g. through Station Street.
- The Alliance will work with bus operators to keep their customers informed about changes.
South Morang Rail Extension

AITPM Technical Forum
Wednesday 29 July, 2009

Presentation by
John O’Connell,
Department of Transport

Key Project Perspectives

• Scope
• Stakeholders
• Project Stages
• Key Issues
• Focus on the transport solution
• Transport and Traffic Issues (next speaker)
Stakeholders

- Rail Franchisee/ Operator/ Mainco
- VicRoads
- VicTrack
- City of Whittlesea
- Utility providers - electricity, gas, water, drainage, telecommunications
- NMIT
- Schools, businesses along alignment
- Residents along alignment
- Public Transport users
- General Community

Project Stages

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Jan 08 to Feb 09</td>
<td>Business Case</td>
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<tr>
<td>May 2009</td>
<td>State budget funding - $562.3 million</td>
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<tr>
<td>May – July 2009</td>
<td>Community consultation and information process</td>
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<tr>
<td>May – Dec 2009</td>
<td>Obtain relevant planning approvals</td>
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<td></td>
<td>Continue design and issues resolution</td>
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<td>Stakeholder review and endorsement</td>
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<td>Aug – Dec 2009</td>
<td>Procure delivery partners</td>
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<tr>
<td>2010</td>
<td>Works commence</td>
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<tr>
<td>2013</td>
<td>Works completed</td>
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Key Issues

Duplication Section
- Traffic impacts
- Existing signalling infrastructure to be relocated
- Localised parking losses
- Construction in a live operating environment
- Relocation of major water mains

Extension Section
- Loss of amenity (noise, vibration, access)
- Urban design
- Loss of vegetation
- Safety
- Construction management
- Integrated interfaces with bus and other facilities

Focus on the Transport Solution
- Rail solution versus a whole of transport solution
- Integration of the whole project
- Focus on project and strategic objectives
- Community benefit
- Competition and synthesis
South Morang Rail Extension
Traffic Related Issues
AITPM Forum
Shaun Smedley, GHD
29/07/09

GHD’s Involvement

• GHD & AECOM joint team
  • Concept Design from Keon Park Station to South Morang Station
  • Preliminary Design (section as above)
• GHD Team
  • Traffic Analysis along High Street
  • Traffic Analysis at proposed South Morang Station
  • Traffic Analysis at Cooper Street / Dalton Road grade sep
  • Patronage Forecasting for business case

Contribution by various members of the traffic team at GHD.
Key involvement and undertaking by Lee Renton.
High Street Level Crossings

- Several level crossings
- Impacted by duplication of rail line between Keon Park and Epping
- Rail services approx. doubled in the peaks

Our Task

- To identify the impact to traffic due to more frequent boomgate closures; and
- To develop and recommend any mitigating treatments

We developed a microsimulation model of the study area to test ‘with’ and ‘without’ scenarios of the rail duplication to understand the direct impacts of the project on the traffic operation.
The Model

• The model was calibrated and validated for 2008 AM & PM peak conditions
• The traffic volumes were increased to 2011 estimates based on MITM outputs
• A range of 2011 treatment scenarios were developed and tested

Observations

• Majority of issues were existing issues;
  • High Street, near Heyington Avenue; and
  • Keon Parade in the PM Peak.
• Increased queuing occurred on Childs Road
• No significant decrease in Level of Service at any of the intersections
• Intersection throughputs were comparable
Recommendations

- Increased coordination between Childs Road/High Street intersection and the level crossing;
- Widen Childs Road to two lanes on westbound approach across the level crossing;
- Coordinate signals at Manns Crossing to avoid queuing on the rail line
- Introduce parking clearways on the west side of High Street near Main Street and Heyington Avenue

South Morang Station

- New station
- Developing shopping centre
- Changing road network
- Need to maintain connectivity
Our Task

• To develop a quantitative analysis of a range of scenarios which will maintain connectivity across the rail line:
  • Civic Drive Grade Separation – 2 lanes each way;
  • Civic Drive Grade Separation – 1 lane each way; and
  • Morang Drive Extension

We developed a microsimulation model of the study area to test the above scenarios to understand the impacts of these on the traffic operation in the local area.
The Model

- The model was calibrated and validated for 2008 AM & PM peak conditions
- The traffic volumes were increased to 2021 estimates based on MITM outputs for a range of development and future road network scenarios:
  - E6 Arterial
  - Findon Road Extension etc
- 6 Combinations of the 3 configuration scenarios and 2 traffic demand scenarios were tested and analysed.

Observations

- Through basic analysis 4 options were discarded
- The two that carried through were:
  - Civic Drive Grade Separation with 2 lanes
  - Morang Drive Extension
- The Morang Drive extension resulted in:
  - Significant queuing and delays;
  - Breakdown in traffic flow; and
  - Increases in travel times by 14% and 62% in the AM and PM peaks.

Both assume that Findon Road is extended & E6
Recommendations

The preferred option to accommodate a new railway station at South Morang is for Civic Drive to be grade separated and maintained as 2 lanes in each direction.

Cooper Street / Dalton Road Grade Separation

Legend:
- Park and Ride Facilities
- Bus and Ride Facilities
- Access Points from Cooper Street and Davison Street (excluding residential driveways)
- Pedestrian Operated Signals
- Bus Stops
- New Cooper Street Bus Facilities
Our Task

- To identify the impact to the following due to the proposed new arrangement:
  - Residents with access to Hendersons Road;
  - Bus movements in the area;
  - Pedestrian access; and
  - Park and Ride access

We developed a microsimulation model of the study area to test this new scenario to understand the direct impacts of the project on the traffic operation.
The Model

- The model was calibrated and validated for 2009 AM & PM peak conditions
- The model is currently undergoing testing of the new configuration

Summary

- Worked closely with the Department of Transport;
- Liaised with Council and VicRoads; and
- Assisted to provide a whole of transport solution.