TO B-DOUBLE OR NOT TO B-DOUBLE. THAT IS THE QUESTION?

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1.0 Synopsis
Road infrastructure is a critical link to provide and grow sustainability for a rural inland Council. So how does a Council go about ensuring an aged road network will meet the current and future needs? It does so by inspired leadership and engaging with the community and other government instrumentalities. Using this feedback, Council can build the strategic program of works required to address the priorities.

Businesses need every advantage in being profitable and freight cost is a large component. To shift 1000t would take a semi 42 trips whereas a standard B Double would do it 28 trips.

Southern Downs Regional Council (SDRC) knows that sustainability is about growth both in new business, enhancing current businesses, and attracting a population to support this.

An aged rail network exists and while Council has made efforts to connect to the proposed inland rail network, it is more likely than in the short to medium term the transport of goods will be by road. The advent of the Brisbane West Wellcamp Airport has already and will continue to make further inroads to local and Asian markets by the use of air freight.

Our Mayor Tracey Dobie decided the time was ripe to engage with companies and freighters to flesh out where SDRC needed to strategically focus within its road network. In this workshop she said “As a Council we are conscious that our horticultural, agricultural and livestock industries are growing and that greater and more frequent access will be required.”

This paper provides a synopsis of the presentations and discusses the outcomes of a Heavy Vehicle Workshop that was conducted in Warwick on the 15 February 2017.

The format of the workshop was:
■ Invite and engage with a wide variety of businesses and freighters.
■ Introduce them to the National Heavy Vehicle Regulators (NHVR).
■ Explain what NHVR is and what they do.
■ Explain the assessment process for determining B Double and Road Train Routes.
■ Explain what the engineering assessment role of SDRC and Transport and Main Roads (TMR).
■ Examining a case study of where TMR, SDRC, and the applicant worked together.
■ Explain the difference between “As of Right” and “Permitted” routes and the purposes of conditioning these routes.
■ Finally a “question and answer” session followed by a workshop to determine what routes need to be considered for upgrading to suit the growing economy of SDRC.

The day was very successful in that:
■ It provided the stakeholders
■ The opportunity to communicate with the regulators face to face,
■ A chance to learn about the NHVR system and see how it connected with their business,
■ A chance to engage with peers facing similar challenges,
■ To provide the mayor, councillors, and SDRC staff an opportunity to discuss
An opportunity for Council to demonstrate its leadership in forging a strategic direction for Southern Downs to support economic growth.

2.0 A Bit About Southern Downs:
Southern Downs Regional Council (SDRC) is a council approximately 160km west of Brisbane. It also has a southern border with NSW and easterly with the Great Dividing Range. It has an area of approximately 7,120 km² and a population of approximately 36,000 people. More details about our region can be found on our Council’s website http://www.sdrc.qld.gov.au/our-region/region-information.

European settlement dates from the 1840s, with land used mainly for sheep and cattle grazing and timber-getting. Numerous small townships were established from the late 1850s. Growth took place during the late 1800s and early 1900s, spurred by mining from the 1850s, the opening of railway lines from the 1870s, and the establishment of many orchards. Expansion resumed in the immediate post-war period, particularly in the main townships of Stanthorpe and Warwick. The population declined during the 1970s and early 1980s, largely due to changes in agricultural practices. The population of the Council area gradually increased from the early 1990s, rising from about 28,300 in 1991 to about 33,400 in 2011.

SDRCs area is predominantly rural, with numerous small townships. The largest townships are Warwick and Stanthorpe, with smaller townships at Allora, Killarney, Wallangarra and Yangan. Rural land is used largely for agriculture, particularly sheep and cattle grazing, orcharding and vegetable and grain growing. Forestry and viticulture are also important industries.

3.0 Soil Composition
SRDC mapped the soil types of its region to obtain an understanding of the likely subgrade types and how that impact on pavement design. The orange area of the map depicts heavy black soils which are ideal for agricultural purposes. These clays are prone to shrink up to 40% and cause issues with rutting and cracking. The blue area represents granite soils which in the most part are good subgrades for road building. Within this area the main industries are winaries, orchards, vegetables, and small cottage industry. The green areas are mostly trap rock or loamy soils which also provide suitable road subgrades and are used mainly for grazing. There are some 16 broad types of industry across the region.

4.0 The SDRC Road Network
While roads existed prior to World War 2 they were mostly gravel or soil in nature. Their locality was most likely determined by horse drawn vehicles and proximity to water and feed. Towns were spaced based on how far a horse could be ridden in a day. The advent of bitumen roads came in the post war years and typically the 12 foot or 16 foot widths depending on traffic volumes. Typically traffic volumes were low.

5.0 So what has changed since the War Years?
The simplistic answer is that producers are looking to get freight from the “last mile” to market by the most efficient means. Traffic volumes have increased due to the prosperity of the region. Agricultural practices have become far more
mechanised and efficient. More intense production practices such as feed lotting have also added to the increased volume of freight. The advent of the B-Double now means that shifting 1000 tonnes can be done in 28 trips by B-Doubles rather than conventional semi-trailer. This presents huge savings in salary, fuel, and wear and tear on vehicles. Typically modern prime movers are far more powerful and able to shift loads at regulatory speed limits as opposed to 80% of that value in years gone by.

The shift to more freight efficient vehicles (FEV) has resulted in changes to regulatory standards. Also there is more pressure on road asset managers to determine if these FEVs are able to traverse the road network safely and without compromise to the road assets including structures such as bridges.

An example of the current pressures on industry is that concrete delivery trucks in cities are becoming larger in capacity. The reason is that traffic congestion is influencing delivery times. The larger capacity allows more concrete to be delivered within the time frame as well as wages savings with fewer drivers being held up in traffic streams.

6.0 The New Freight Task and FEVs
SDRC has two major highways that service the region. These highways facilitate freight movement from the southern states into Queensland including freight from the west. Within the region commodities such as fruit, vegetables, grains and livestock are being shifted by B-Doubles. These industries require commodities such as fuels, fertilizers, machinery, to be transported to farm. To a lesser extent minerals, sandstone, and military equipment is also being transported by FEVs.

7.0 Road infrastructure is critical to provide linkage and grow sustainability for an inland council
The Mayor requested that SDRC host a Heavy Vehicle Workshop. The aim was to bring producers, transporters, and government and other agencies together to discuss the appropriate steps and responsibilities for applying and getting approval for heavy vehicle access; and to identify what the priorities are for producers and transporters in our region. As a Council we are conscious that our horticultural, agricultural and livestock industries are growing and that greater and more frequent access will be required; and we want to ensure that all parties are in agreement on what has to be done.

8.0 The Workshop:
The workshop was held at the Warwick Town Hall on the 15th February 2017 at 12:30pm with closure at 3:30pm.

The first one and a half hours were dedicated to the following: a welcome by Mayor Tracy Dobie informing the audience of the system and how it works, who controls the application/approval process, who provides input to the assessment, and finally a case example of working together with industry. The remaining one and a half hours were dedicated to the workshop. Questions were fielded from the audience to obtain clarification before moving into a workshop to examine which routes require Heavy Vehicle access. The outputs of both sections are discussed further in this report.

The workshop was attended by approximately fifty five people including Councillors, SDRC staff and stakeholders from the freight industry.

9.0 Synopsis of Sessions:
9.1 Opening address by Mayor Tracy Dobie:
The Mayor opened the workshop using a slide show to express the outcomes she desired for the workshop. The desired outcome was working towards a 10 year
strategic plan as to what roads were important to open to freight efficient vehicles. As some of the roads may not currently be suitable, the workshop would provide the basis to formulate a strategic plan. The Mayor highlighted some generic possible deficiencies such as narrow roads, weak structures, and non-gravel shoulders. She also informed the group as to the nature of soils in our region. These soils vary in their capability to support heavy vehicle loading. The Mayor also presented a map showing the use of land within the shire.

9.2 Presentations by NHVR: Kerry Plater from NHVR, who is their Principal Engineer Access, presented the next couple of sessions. Kerry gave an explanation as to who NHVR are and their legislative power.

NHVR’s role is about promoting public safety, managing impact of heavy vehicles on the environment, road infrastructure and public amenity, promoting industry productivity and efficiency in road transport of goods and passengers, and encouraging and promoting productive, efficient, innovative and safe business practices. The enforcement of the law in this area is undertaken by Police and authorised officers.

Kerry then gave a pictorial view on the type of vehicles (including the regulation vehicles such as rigid trucks and semi-trailers) that use our roads and what restrictions are placed on them.

Using http://gis.nhvr.gov.au/journey planner/ he then showed the audience the B-Double and road train maps and the permissible roads for the different vehicle types.

The next presentation was about obtaining permits and the process. Stage one is for the operator is to plan the journey using the journey planner and then lodge an application. NHVR then receive and evaluate the application. The application is then forwarded to the road manager/s to review, make a decision and set appropriate conditions if needed to protect assets and road users. Kerry then when through a series of slides providing more detail.

Another method of access was then discussed called Pre-approvals. Pre-approval is the process of allowing a targeted vehicle type access to an inclusive list of roads or an area (with or without excluded structures/roads). These approvals can be subject to regular review, meaning they could be amended or withdrawn. The duration is also flexible. An example might be a special purpose vehicle (SPV) such as a crane. Types of roads that may be considered are roads in industrial areas, a heavy vehicle by-pass or roads that connect with Approved Routes.

9.3 Presentations by Local Government Association Queensland (LGAQ): This presentation was delivered by Robert Chow (Heavy Vehicle Access Liaison Officer) from LGAQ. Robert’s presentation was based upon the Memorandum of Agreement between LGAQ and NHVR, “Improving the Safety and Productivity of Queensland’s Local Road Freight Network”.

In the first part of Robert’s presentation he discussed the benefits of emerging Freight Efficient Vehicles (FEV). Within the table from http://www.truck.net.au/resource-library/truck-impact-chart-second-edition he demonstrated that to shift 1000 tonnes a normal semitrailer would take 42 trips as opposed to a 19m B-double which shift the same material in 28 trips. This is obviously a large savings in wages, truck wear and tear and fuel.

He next discussed the process of route assessment. This is undertaken on a technical basis. Assets such as bridges, culverts and pavements are assessed on capacity to support the vehicle. Also included are geometric considerations. These checks are performed to ensure that the vehicle can negotiate the road network legally without compromising safety to other road users. Swept path, stacking distances at intersections and overtaking provisions are considered. Non road infrastructure elements such as amenity or public consultation are not included in this assessment.

The Australian Road Research Board (ARRB) have developed a route assessment tool called RAVRAT. This tool allows engineers to follow a process of assessment by answering a series of technical questions. It also provides the basis to determine what requirements or conditions need to be placed on a permit. For example if the applicant’s selected intersection is not suitable the Road Manager can ask this be upgraded before a permit is issued.

The last selection of slides covered “conditions”. Conditions are used to mitigate risks to road infrastructure, public amenity and safety. The first of three categories is the vehicle itself. There may be a requirement for additional safety equipment such
as signage or warning devices. The second category is based on road conditions, examples could be reduced speed levels or centreline travel over bridges. The final category applies to travel conditions, an example here would be limiting travel to outside school hours or night time hours when there is less traffic.

9.4 Autoturn: A Demonstration of the tool:

Autoturn is a software based program that examines swept paths for vehicles both horizontally and vertically. A YouTube presentation was provided to the audience to demonstrate the power of the software. Essentially it checks if a vehicle type can negotiate some geometric parameters. The video can be found via the following link https://www.youtube.com/watch?v=wQtvea4Keb4. For example using survey information or aerial photography, intersections can be checked to ensure the vehicle can stay within its lane.

9.5 Case example – Rodgers Creek Road Greymare:

This presentation was by Mike Holeszko (Maintenance Engineering Coordinator SDRC). The presentation was about a case example where the applicant, Transport and Main Roads (TMR), and SDRC worked together to achieve an outcome.

The applicant wanted to get a type 1 road train approved to bring in grain to a feedlot at Greymare (west of Warwick). A certain amount of engineering checks can be performed in the office using road video footage and aerial photography. To get the best outcome it is sometimes worthwhile asking the applicant to conduct a field trial. The benefits are that all parties can examine the performance of the vehicle on the proposed network. All parties get a chance to discuss mitigation measures if risks are found.

The presentation contained slides about what engineers look for and also a plan view of one of the common intersections demonstrating swept paths for the proposed vehicle. This slide showed the vehicle was not able to stay within its lane while conducting a left hand turn out onto the Cunningham Highway. During the infield demonstration the rear wheels of the trailer left the bitumen onto no pavement shoulders. This compared well with the plan view done in the office.

To overcome this, an alternative council road could be used to allow empty vehicles to exit back onto the highway at a better intersection. The permit was issued for a 12 month period with conditions to allow use of roads for particular turning movements. A win-win situation for all.

9.6 Multi-combination Vehicles Route Assessment Process:

This presentation was by David Willis (Principal Engineer Operations TMR). They provided the audience a snap shot of what TMR does, the road network they look after, and an outline of their core business.

The discussion on route assessment was largely a reinforcement of previous presentations.

9.7 Question and Answer (Q&A) Session:

Mike Holeszko chaired a Q&A session where the audience had the chance to ask questions about the previous sessions or seek further clarification from the panel of presenters and invited guests. Each table were allowed one question before progressing to the next table so that each table had a chance to interact. Notes were taken by council staff and the list of questions and answers is included with this article. Generally this session was useful to explore more localised issues and gain further clarity on the presentations. This session had to be cut short to allow enough time to workshop the next session.

9.8 Workshop Session – Which roads should be strategically “as of right” or “permitted” routes:

The final session was a workshop session where the participants got the opportunity to provide input as to what roads they would like to see opened up to the larger vehicles. There were 7 tables set up with representatives from council or TMR at each table to help facilitate. A list of roads was developed and attached below. The series of maps that were handed out to each group for them to draw on have also been scanned and kept on Council’s network.

10.0 Workshop Evaluation and Where to From Here?

The feedback from all participants including presenters was they thought the workshop was very informative. It also allowed participants to network with fellow operators and discuss common issues. Operators were also able to put a face to the Regulators and Road Managers and feel comfortable to be able work through the access requirements.

The Q&A session was particularly useful in dispelling myths and
clarifying the input from the various government departments.

Now that Council has a map of the areas requiring FEV access it will use this data to supplement the forward works program. FEV access will be one of the factors in prioritising works.

Heavy Vehicle Access Public Meeting, 15 February 2017, Warwick Town Hall:

Q. 1 If there are several operations on the same road why can’t we get “as of right” for that road?

Answer: Generally as of right will occur when road managers are satisfied that all risks have been mitigated. Till then it will operate under permit which enables Road Managers to control the number and type of operations on the road.

Q. 2 What’s the difference between a Road Manager and Road Authority?

Answer: A Road Manager is a specific term under NHVR to identify the Road Authority responsible for a particular road that a route approval is requested. A Road Authority as an example could be Transport and Main Roads or Southern Downs Regional Council.

Q. 3 If we want to apply for access to an individual property, what is the first step?

Answer – Informally you can talk with Council officers to gain advice before lodging a formal application with NHVR. Council will be happy to assist you with determining if the route is suitable and what conditions may be required. Council officers will use RAVRAT as a tool to assist you. Again RAVRAT is a formalised process that prompts engineers to consider engineering and safety constrains that may apply to the proposed route. Please note that NHVR issue permits. Road Managers are consulted to determine if a route may be suitable. Enforcement of permits and non-road train / B Double routes is undertaken by the Police depending on which State you are in.

Q. 4 If time restrictions are going to be applied, can truck parking and rest areas with toilet facilities be provided?

Answer: Road authorities generally encourage transport operators to make use of private or commercial facilities such as the Caltex Truck Stop. TMR generally provide Heavy Vehicle Rest Areas or informal rest areas where there are fatigue issues or no commercial activities. Council generally do not provide heavy vehicle rest stops. Informal rest areas are provided by way of vacant stockpile sites however these do not have toilet facilities.

Q. 5 Time restrictions – night hours Vs daylight hours – why?

Answer: One way of mitigating risk is to condition the permit so that no travel during school/ school bus hours or even at night when traffic volumes are lower. This is more so used for wide loads that have a tendency to bank up traffic behind them or require the oncoming traffic to pull over on the road verge.
Q. 6 Why isn’t “bigger” always better and more desirable?
Industry is chasing performance and efficiency. Why wouldn’t you grant access to a bigger truck?

Answer: there are a number of assessment guidelines that have to be adhered to. E.g. will it actually fit on the road. Performance Based Standards etc. The purpose of this workshop is also to develop strategic plans as to which road networks could be upgraded to facilitate the larger vehicles.

Q. 7 x tonnes to shift out of the district in a short period of time. Bigger trucks means less trucks on the roads. Are 2 small trucks better than 1 big truck in regard to safety?

Answer: It is a matter of determining risk. Semi-trailers are allowed on all roads as a default vehicle unless the road is load limited. A lot also depends on the drivers’ skill and attitude to safety which can be a large variable. So in determining if a larger vehicle will fit, it is more about the vehicle characteristics assuming a competent operator. That is why the RAVRAT process is used.

Q. 8 If b-double access permit is applied for in regard to a particular route does the individual have to provide registration numbers for the permit?

Answer: You can sub-contract but applicant must take responsibility to meet the conditions of the permit.

Q. 9 Who applies for the permit – the landholder or the transport operator?

Answer: The permit applies to the vehicle. If the vehicle is owned by the landholder then it is him. If sub contract it is the vehicle owner.

Q. 10 Grain harvest on black soil roads – could we get a harvest permit – if it is associated with a registration number, how do we cope with 14 or 15 trucks in a day?

Answer: Applied for permit to remove grain using 14 or 15 trucks a day. Identify the vehicles. Sub-contractors permit could be worded to allow for this. Identify vehicle OR type of vehicle being used. Local government Act provides powers for local and state governments to construct a road. Council has a road network plus tracks on reserves. Council would not improve a road reserve necessarily to approve b-double access. In NSW they sometimes grade a road for the farmers to use alongside the public road. Roads like Pettigrew Crossing and Willets road – formation work on an occasional basis. If a permit was approved it may be conditioned to mitigate risk or damage.

Q. 11 Would council consider developing the road if landholder offered to contribute $200,000 to have it sealed?

Answer: yes, it has been done in the past.

Q. 12 does same apply to TMR roads?

Answer: Short answer is “Yes”. Consider it on a case by case basis and usually low traffic numbers.

Q. 13 Multi combination access – swing area and crossing on the other side of the road. A responsible operator/driver will make decisions to do this safely. How is this different to businesses in town where you have trucks that have to cross over the centre lines to gain access to businesses?

Answer: Toowoomba Council has put in some water bollards to teach drivers about turning. Acknowledging that there are great drivers, the rules have to accommodate the skills of average drivers. Drivers have to abide by the law, as do Councils/TMR when it comes to road standards.

Save the Dates
SEQ Branch Technical Series
Alex Fraser Facility Tour
Nudgee Beach
22 February 2018

SWQ Branch Conference
Goondiwindi
15-16 March 2018

NQ Branch Conference
Cairns
18-20 April 2018

CQ Branch Conference
Barcaldine
14-16 June 2018

For more information contact Amanda Mikeleit on 3632 6802 or Amanda.Mikeleit@ipweaq.com

http://www.ipweaq.com/events

“I just want to take this chance to say a huge thank you and well done to you and your team. Janelle and I thoroughly enjoyed all aspects of the conference. There was obviously a huge amount of work that went in behind the scenes.”

Mike Holeszko, Southern Downs Regional Council