

Glossary of key terms

Term	Definition
Abutment	The substructure at the ends of a bridge span upon which the bridge superstructure rests
Accessibility	The ability of people to reach desired goods, services, jobs and activities from a particular geographic location
Agglomeration	The ability of businesses to achieve higher productivity through economies of scale and scope. In urban settings, economies of agglomeration are the benefits that firms obtain by locating near each other or in areas that have a high density of economic activity
AM peak period	Two-hour period between 7am and 9am
Amenity	Attractiveness or overall quality of a geographic location. For the purposes of this EES, amenity includes landscape and visual amenity, noise levels, air quality, lighting and traffic levels
Approval	Any licence, permit, consent or other authorisation required under any environmental law for the development of the project.
Benefits	Positive impacts or improvements that can be attributed directly to some aspect of the project's design, construction or operation
Braiding	A design feature of freeways where ramps must cross each other and use a grade separation to avoid weaving or crossing.
Bunding	A retaining wall constructed around a defined area. Used to protect locations where hazardous or potentially polluting substances are handled, processed or stored
Carriageway	A length of road with more than one lane where traffic is travelling in a single direction and vehicles are not restricted from moving between lanes. A dual carriageway is a length of road where the traffic/lanes heading in opposite directions are separated by a central barrier, such as a median strip or a metal barrier.
CBD	The Central Business District of Melbourne, which is bordered by Spencer Street to the west, La Trobe Street to the north, Spring Street to the east and Flinders Street to the south
Central Melbourne/ central city	The area that includes the CBD, Fishermans Bend, Docklands, Southbank, St Kilda Road, Parkville and the Arden-Macaulay urban renewal precinct
CityLink	The existing tolled urban motorway linking the West Gate, Tullamarine and Monash Freeways and incorporating the Bolte Bridge and the Burnley Tunnel. CityLink uses a free-flow electronic toll collection system known as e-TAG.
Collector-distributor road/lane	A one-way road/lane parallel to the mainline traffic lanes that provides access to or from more than one ramp. The C/D road collects traffic from on-ramps or the mainline lanes and distributes traffic to off-ramps or back to the mainline lanes. This minimises the number of interactions with through traffic.
Community facility	A building that accommodates a range of social, educational or recreational activities, meetings, health or support services
Community cohesion	The quantity and quality of interactions between community members, the extent to which members of a local community know and care about one another and the extent of attachment to a geographic community or a community of interest
Concept Design	The design developed for the project based on early design development and options assessment undertaken by the Victorian Government and Transurban

Term	Definition
Connectivity	The ability for people to access community and recreation facilities and their daily needs easily, safely and without being hindered by barriers. In relation to a particular geographic location, good connectivity means having a number of options to get to a destination
Construction compound	A defined area used for site offices, workforce parking, laydown of materials, storage of spoil and other purposes related to the construction of the project
Construction work site	Location where construction surface works would be undertaken
Cultural Heritage Management Plan (CHMP)	Cultural Heritage Management Plan approved under the <i>Aboriginal Heritage Act 2006</i>
Cut and cover construction	Method of building a tunnel (or underground structure) by excavating a cutting to the required depth, constructing the lining for the structure and then backfilling the excavation over the structure
D & C Contractor	The contractor selected to design and construct the project following a competitive tender process
Earth pressure balance (EPB) TBM	A type of tunnel boring machine that is designed to maintain the pressure of the earth around the tunnel excavation, which minimises the risk of ground settlement and groundwater disruption.
Environment Effects Statement (EES)	The Environment Effects Statement prepared under Victoria's Environment Effects Act 1978 for the project.
Environmental Management Framework (EMF)	The Environmental Management Framework contained in Chapter 8 of the EES providing a transparent and integrated governance framework for managing the environmental effects of the project.
Environmental performance requirements (EPRs)	A set of environmental outcomes the project must achieve during its design, construction and operation. The project would be delivered in accordance with final approved EPRs to be approved by the Minister for Planning following the EES assessment process.
Freeway	The primary road connecting the West Gate Freeway with the Port of Melbourne, CityLink and the central city, including the upgraded section of the West Gate Freeway generally between the M80 Interchange and Williamstown Road, and includes all lanes, ramps, road tunnel ventilation systems and structures, signage, barriers, operations management and control system, and other physical infrastructure required for the completed road.
Freeway Management System	A combination of strategies, systems and technologies used to monitor, manage and control the entry and flow of vehicles onto a freeway
Girder (Super-T, Bulb-T, trough girder)	A support beam used in construction. Depending on the type of girder being used, these can be delivered to the construction site having been pre-tensioned, pre-stressed and precast off-site.
Gross Domestic Product	The market value of all final goods and services produced nationally in Australia in a given period
Gross State Product	The market value of all final goods and services produced within a state or territory in a given period
Groundwater quality restricted use zone (GQRUZ)	Provides information about established existing levels of contamination and groundwater conditions within a defined zone. SEPP (Groundwater of Victoria) defines specific requirements for managing, cleaning up (to the extent practicable) and reviewing these zones.
High Productivity Freight Vehicle (HPFV)	Truck and trailer combinations that exceed nominal mass and dimension limits and require permits from the National Heavy Vehicle Regulator.
Incorporated Document	The West Gate Tunnel project Incorporated Document that is to be included in the Melbourne, Port of Melbourne, Hobsons Bay, Maribyrnong and Wyndham Planning Schemes to govern the use and development of the project.
Independent Reviewer and Environmental Auditor (IREA)	The Independent Reviewer and Environmental Auditor referred to in the Environmental Management Framework.

Term	Definition
Inner west	The area immediately west of the Maribyrnong River and approximately five kilometres from Melbourne's CBD. Comprises the suburbs of Yarraville, Kingsville, Seddon, Tottenham, Brooklyn, Spotswood, South Kingsville, Footscray and West Footscray
Key Approvals	The following Approvals to be obtained for the project: <ul style="list-style-type: none"> a the Planning Scheme Amendment; b the Works Approval; and c the CHMP.
M1 corridor	The road corridor formed by the West Gate Freeway (between the Princes Highway and the Melbourne CBD) and the Monash Freeway (from the Melbourne CBD to the city's south eastern suburbs).
M80 Ring Road	Freeway corridor linking Melbourne's northern suburbs and western suburbs, with connections to the Hume, Tullamarine, Calder, Western, Princes and West Gate Freeways. Also known as the Western Ring Road.
Management measure	A design refinement or process undertaken to ensure that project-related activities are managed appropriately and in accordance with relevant regulations, standards, policies and guidelines
Mitigation measure	A specific action to minimise or avoid an identified environmental impact and enable the environmental performance requirement (EPR) set for the project to be met
Over-dimensional vehicles	Vehicles with height or width dimensions that limit the roads, bridges and tunnels they can use. Over-dimensional vehicles are permitted to travel on specific OD routes defined by VicRoads
PM peak period	Two-hour period between 4.30pm and 6.30pm
Placard load	Vehicle carrying over a certain amount of dangerous goods that is required to display placards (such as a sign or a notice) during transport
<i>Plan Melbourne</i>	Metropolitan Planning Strategy <i>Plan Melbourne 2017-2050</i> , being the Victorian Government's metropolitan planning strategy for Melbourne's growth to 2050
Planning Scheme Amendment	The planning scheme amendment to the Melbourne, Port of Melbourne, Hobsons Bay, Maribyrnong, Wyndham and Brimbank Planning Schemes contained in Attachment IV to the EES. This amendment, once made, will govern the use and development of the project.
Portal	The entrance to a tunnel
Priority site	Priority sites are sites for which EPA Victoria has issued a Clean-Up Notice or Pollution Abatement Notice. Typically, these are sites where land and/or groundwater pollution presents a potentially unacceptable risk to human health and/or the environment.
Project Agreement	The project agreements to be entered into between the State and Project Co to govern the design, construction and operation of the Project
Project Co	The company that would design, construct and operate the West Gate Tunnel project in partnership with the Victorian Government
Project components	The West Gate Tunnel project has three components: <ul style="list-style-type: none"> • West Gate Freeway • Tunnels • Port, CityLink and city connections
Project design (or the design)	The design developed by the D & C Contractor (CPB John Holland Joint Venture) to develop the project, being the design assessed in this EES.
Project objectives	High-level objectives set by the Victorian Government to establish the broad strategic direction for designing and developing the West Gate Tunnel project

Term	Definition
Project proponent	The person or body carrying out or proposing to carry out any works that could be subject to the <i>Environment Effects Act 1978</i> . DEDJTR is the project proponent for the West Gate Tunnel project
Proposal design	The design proposal submitted by Transurban to the Victorian Government in March 2015 as a market-led proposal.
Ramp metering	A traffic control system that regulates the flow of vehicles onto a freeway or motorway system from its entry ramps
Receptor	A place, location or point at which exposure to particular effects (such as noise, vibration or airborne pollutants) is measured. 'Sensitive receptors' are those that are identified as likely to be more susceptible to adverse effects, such as schools, hospitals, day care facilities and residences
Recreation facility	A building, formal or informal open space (including parks) used for passive recreation or sporting activities
Redundancy	The ability of a transport network to provide alternatives for travellers and continue to function during events such as disasters, accidents or incidents
Reference Design	A design for the project developed by the Victorian Government and Transurban that builds on the Concept Design and aims to meet the project's functional requirements, taking into account the project objectives, technical requirements, environmental constraints and feedback from stakeholders and the community. The Reference Design provided the basis for the competitive D&C tender process
Reliability	The degree of variation in journey time. A transport network with good reliability has a low level of variation in the journey time experienced by users
Resilience	The flexibility of a transport network to respond to changing conditions such as increased demand or congestion
Risk Register	A full list of all risks identified for the project
Scoping Requirements	The Scoping Requirements applicable to the preparation of the EES for the project under the <i>Environmental Effects Act 1978</i>
Social fabric	The demographic composition and values of the local community
Spoil	Rock and soil removed during the excavation of the tunnels and construction of the stations
Technical Reference Group	The agency-based advisory group convened by the Department of Environment Land, Water and Planning to advise on preparation of the EES for the project
The project	The West Gate Tunnel project
Truck curfews	Time period during which heavy vehicles are not permitted to use particular roads
Tunnel boring machine (TBM)	A machine used to excavate tunnels with a circular cross section through a variety of soil and rock types.
Urban renewal	The improvement or rehabilitation of urban areas. Generally, urban renewal involves demolishing old or run-down buildings on brownfield sites in inner city areas to build new residential or commercial developments or large scale public works projects (such as convention centres, stadiums or freeways). Urban renewal can also make better use of underused land located close to transport connections.
Utility service provider	An entity, other than a public authority or municipal council, having responsibility under an Act for the generation, transmission, distribution or supply of electricity, gas, power, telecommunications, water supply, drainage or sewerage services
Variable message sign (VMS)	An electronic traffic sign used to give road users real-time information about special events/conditions such as congestion, accident, roadwork locations or changed speed limits
Ventilation shafts	Shafts used to control air quality during tunnel maintenance and in the event of an emergency

Term	Definition
Victoria Planning Provisions	The Victoria Planning Provisions under the Planning and Environment Act 1987 as amended from time to time.
VLC Strategic Model/ VLC Zenith Model	The strategic transport model of Melbourne developed by Veitch Lister Consulting.
Volume to capacity ratio (V/C ratio)	Also known as degree of saturation. The number of vehicles on a road segment divided by the theoretical capacity of that segment.
Wayfinding	The way in which people navigate from place to place, for example through road signage or gantries over the road with information/signage.
Weaving	Situation where streams of traffic travelling in the same direction must cross each other to veer left or right
West Gate Tunnel project (or the project)	The West Gate Tunnel project (formally known as the Western Distributor project) as declared by the Minister for Planning under section 3 of the Environment Effects Act 1978
Works Approval	The works approval to be issued by the Environment Protection Authority under the Environment Protection Act 1970 authorising the construction and installation of tunnel ventilation system for the project.

Note: Specific technical terms are defined in the glossaries within the individual specialist impact assessments, which are appended as Technical Reports to the EES.

Abbreviations

Acronym/abbreviation	Full name
AH Act	<i>Aboriginal Heritage Act 2006</i> (Victoria)
ASS / ASR	acid sulfate soil / acid sulfate rock
BCR	benefit cost ratio
CBA	cost benefit analysis
CCEP	Communications and Community Engagement Plan
CBD	Central Business District
CEMP	Construction Environment Management Plan
CHMP	Cultural Heritage Management Plan
CLP Act	<i>Catchment and Land Protection Act 1994</i> (Victoria)
CM Act	<i>Coastal Management Act 1995</i> (Victoria)
CSIRO	Commonwealth Scientific and Industrial Research Organisation
D&C	design and construction
dB	decibel
DDA	<i>Disability Discrimination Act 1992</i> (Commonwealth)
DDO	Design and Development Overlay
DEDJTR	Department of Economic Development, Jobs, Transport and Resources (Victoria)
DELWP	Department of Environment, Land, Water and Planning (Victoria)
DoE	Department of the Environment (Commonwealth)
DTF	Department of Treasury and Finance (Victoria)
EE Act	<i>Environment Effects Act 1978</i> (Victoria)
EES	Environment Effects Statement
EIA	economic impact assessment
EMF	Environmental Management Framework
EP Act	<i>Environment Protection Act 1970</i> (Victoria)
EPA	Environment Protection Authority (Victoria)
EPB TBM	Earth pressure balance tunnel boring machine
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i> (Victoria)
FTE	full time equivalent
FY	financial year
GDP	Gross Domestic Product
GHG	greenhouse gas
HO	Heritage Overlay
GSP	Gross State Product
HPFV	High Productivity Freight Vehicle
IA	Infrastructure Australia
ICT	information and communications technology

Acronym/abbreviation	Full name
IREA	Independent Reviewer and Environmental Auditor
ISCA	Infrastructure Sustainability Council of Australia
LGA	Local Government Area
LoS	Level of Service
LPPF	Local Planning Policy Framework
LUMS	Lane Use Management System
MCA	multi-criteria analysis
Melbourne Metro	Melbourne Metro Rail Project
MSS	Municipal Strategic Statement
MTM	Metro Trains Melbourne
MTPF Act	<i>Major Transport Projects Facilitation Act 2009 (Victoria)</i>
OEMP	Operations Environmental Management Plan
P&E Act	<i>Planning and Environment Act 1987 (Victoria)</i>
PEM	Protocol for Environmental Management
PBS	Performance Based Standards (Scheme)
PHW Act	<i>Public Health and Wellbeing Act 2008 (Victoria)</i>
PMC	Port of Melbourne Corporation
PTV	Public Transport Victoria
RM Act	<i>Road Management Act 2004 (Victoria)</i>
SEPP	State Environment Protection Policy (Victoria)
SPPF	State Planning Policy Framework
TBM	tunnel boring machine
TEU	Twenty-foot equivalent unit (Unit of capacity for a container ship – a standard 6.1 metre long shipping container is equivalent to 1 TEU)
TI Act	<i>Transport Integration Act 2010 (Victoria)</i>
TBM	tunnel boring machine
TRG	Technical Reference Group
UDF	Urban Design Framework
VHR	Victorian Heritage Register
VMS	Variable Message Signs
vht	vehicle hours travelled
vkt	vehicle kilometres travelled
WDA	Western Distributor Authority
WEBs	wider economic benefits
WEMP	Worksite Environmental Management Plan