20 Year State Infrastructure Discussion Paper

Submission from Walking SA

Walking SA is the not-for-profit peak body that leads, promotes and supports all forms of walking in South Australia, including walking for recreation, transport, health, wellbeing, organised events, adventure, environmental appreciation and fun experiences. Our vision is to see more people walking more often. Our members include walking clubs, informal groups, individuals and organisations whose aims, and objectives align with those of Walking SA.

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Walking SA Submission Contents

Overview

Walking SA Supports the key principles embodied in the 20-Year State Infrastructure Discussion Paper. Too often such plans turn out to be little more than wish-lists for big ticket projects that ultimately fail to deliver the promised benefits. We are pleased to see that the paper begins to address the General Issues we believe are vital to this and every infrastructure plan (Appendix 1).

Summary of Recommendations

1 Walkability Impact Assessments

All government sponsored Infrastructure projects should be evaluated in terms of their impact on walking and walkability. An infrastructure project that discourages walking overall should not proceed.

2 Measurement of Walking

The level of walking in the community should be measured. Communities where the level of walking is low (minutes/person/day) warrant special attention. It is likely that they need infrastructure projects and planning measures to correct the mistakes made in their design/development/layout.

3 Walking Infrastructure Funding

Create an effective mechanism to fund small scale walking infrastructure. The benefits of walking, and the infrastructure needed are too diverse and fine-grained to be funded within the present system that favours large single purpose projects

4 Reform of Infrastructure Decision Making Process

The present “money pot” and “shopping list” approaches to infrastructure planning are not objective and too open to interference by corporate lobbying and political considerations.

5 A Model for Infrastructure Provision

We propose a way of looking at and planning for infrastructure, based on the fundamental requirement to provide infrastructure where it’s needed and in the most cost-effective and efficient manner.

The importance of Walking and Walkability

We have reviewed the discussion paper through the lens of Walkability, which as we will show, unites nearly all the key principles of good infrastructure planning. By contrast, walking suffers under the current infrastructure planning system. Walking needs little infrastructure but is often impacted by poorly considered transport infrastructure.

Transport infrastructure often forms a barrier that severs or destroys walkability. Walking is the fundamental form of transport but is too often ignored or treated as an afterthought in infrastructure projects. These mistakes are often expensive or impossible to correct. (See Appendix 1)

Detailed Comments on the Paper

Population and growth challenges (page 10)

We must learn from the experiences of other cities and regions.

It's worth noting that thriving cities generally have a backbone of infrastructure including public transport that supports walking and walkability, even if it's been stretched or is running at capacity or was designed in the pre-automobile era. Typically, cities bigger than Adelaide's 1-2 million have hit a growth/liveability ceiling if they haven't provided the necessary public transport infrastructure, which in turn encourages walking for most local and last mile travel.

Growing dominance of data and technology (page 11)

The development of information and communication technologies promises to liberate work from being restricted to traditional offices, shops and factories. There is a belief you can set up a business anywhere. Recent experience however suggests that a level of face to face contact remains vitally important in developing and maintaining both personal and business relationships. A walkable environment remains a key to success, despite developments in data and technology.

Ageing population (page 12-13)

Walking and walkability remain important infrastructure issues, even amongst people who find walking increasingly difficult.

Beyond driving age

Walking and walking substitutes (gophers etc) are vitally important as and when people lose the ability to drive. Autonomous vehicles (AV) will help but are unlikely to be widely available until beyond the lifespan of the current baby boomer generation. By making the environment walkable, it remains possible for people to maintain mobility and their social networks beyond retirement age.

Retirement Infrastructure

The aged care industry has expanded recently, often creating large institutions, ghettos and gated communities that separate people from important social networks. While security remains important, this is often at the expense of a connected social environment.

Not-in-my-backyard

Given the typical size of these institutions, there has been understandable community resistance when retirement villages and nursing homes seek to establish themselves within established residential communities. The result has been a compounding of the problem. A shortage of places and beds. Institutions, once established, grow even larger. New institutions are established on out of the way locations such as green-fields and former industrial sites lacking in social networks.

Age in place

There need to be smaller and more dispersed accommodation options, ideally within walking distance of where people used to live and with easy access to family support. This enables people to maintain their established social networks within a familiar environment.

While nursing homes need to be of a certain size to be financially viable, many are well beyond that minimum size. Perhaps some are increasing in size as a means of maintaining their economy of scale. The same is not true of retirement villages and independent living units that can be smaller and more dispersed.

New arrivals (Page 14) Heritage of walkability

People often come from countries with a heritage of walking as a form of transport and a structure of dense cities and towns. However, their views may be clouded by economic depression or poorly developed or maintained infrastructure in their country of origin.

A great place to live into the future (page 15)

Walkability is key to having a great place to live
Green Infrastructure is often minimal, and simply requires recognition and preservation.

Resilience to climate change (page 16)

Walking reduces the drivers for climate change (viz fossil fuel use)

Regions (Pages 17-19)

Compared to the situation on metropolitan Adelaide, the regions have a different and greater set of constraints that affect their economies, infrastructure and liveability. Most of these constraints are linked in some way by walkability and their low level of walking.

Major constraints and trends

Very low levels of walking, almost none for transport.
Poor health outcomes, due in part to mechanisation displacing meaningful physical activity such as walking and physical farm labour.
Public transport virtually non-existent.

Is the current level of infrastructure sustainable economically?

Some Positives

Regions are often good locations for recreational trails especially walking trails. These often have tourism potential as well.
Places with unique natural features have tourism potential, with walking and walkability the key to their success.
The allotment plans of many towns were often laid out in the pre-automobile era when walking was the common and accepted form of transport.

Better integration of land use and infrastructure planning (Page 20-21)

Infrastructure should be placed where it's needed. The general test for this is whether people's daily needs (apart from commuting to work) can be met within walking distance of where they live. Infrastructure that's needed less often or needs to serve a larger population (such as a major hospital or cultural facility) needs to be reachable by efficient public transport, supplemented by a modest amount of walking,

Owning and operating a motor vehicle should not be an essential requirement for living, or for participating in the economy.

Improving infrastructure planning and prioritisation
Optimise current assets through better asset management
Funding, financing and procurement alternatives (Page 22-23)
We strongly agree with the discussion paper on these points.
However, they are about the processes engaged in after the decision has been made as to which projects are to receive the green light, or how much money is to be divided up for their execution.
See below for our recommendations on "Reform of the infrastructure decision-making process"

Culture, sport and tourism (Page 25)

National and International

These facilities are major drawcards, attracting participants and spectators from a wide geographical area. (e.g. Stadiums, Theatres, iconic National Parks and trails) Walkability is important here, especially for participants and spectators. Facilities need to be located near and serviced by Public Transport (good examples: Adelaide Oval, State Aquatic Centre)

Tourist/Cultural/Historic/Trails

These are centres catering for smaller numbers, specialised interests or defined regional areas. Again, walkability within precinct is important, as well as in connecting with public transport and modest amounts of parking.

Local

The importance of walking within local residential, shopping and commercial environments cannot be overstated. This includes local footpaths and connection to neighbourhood level facilities including schools and public transport stations and stops.

Digital (Page 26)

Wherever possible, services should be capable of being delivered locally through suitable public infrastructure as well as shops and other commercial businesses. Kiosks and digital "Scribes" to help elderly and digital-illiterates

Fulfilment centres – essentially shops or post-offices with a range of services that can deliver or hand-over goods and services arranged or ordered through the internet. This might be an alternative for customers otherwise having to rendezvous with delivery services at home.

Education (Pages 27-28) Walk to School

Schools must service the neighbourhood, Children should not need to bused or driven from a wide area. Use digital comms to provide choice, assist teachers and expand curriculum within neighbourhood schools

Health (Page 29)

Focus on prevention and primary medicine through neighbourhood clinics, accessible by walking

Use digital to empower local GPs and primary carers with access to expertise and specialised resources

High-end specialist care available through regional centres reachable through Public Transport

Don't use amalgamations to force people to use private transport to travel across town (eg between Lyell McEwin and Modbury Hospitals)

Justice (Page 30)

The discussion in the plan focusses on location of prisons. Also need to talk more generally about infrastructure and public safety. This comes back to walkability (again)

"A walkable environment is a safe environment"

- Eyes on the street
- Public lighting
- Pedestrian friendly

Refer to Heart Foundation's Healthy Active by Design web tools.

Transport (Page 31)

There is disappointingly little discussion about future trends in this part of the report beyond listing current infrastructure projects and plans. This "shopping list" approach fails to reveal much about the reasons for these projects, and whether they actually stack-up in terms of value for money. We offer some points which should give some structure and rigor to this discussion.

Role of Walking in Transport

Walking is and needs to be our primary and most important form of transport, but this fact is rarely recognised in infrastructure planning. Although walking appears in earlier sections, it is disappointing to see little reference to walking in this part of the discussion paper.

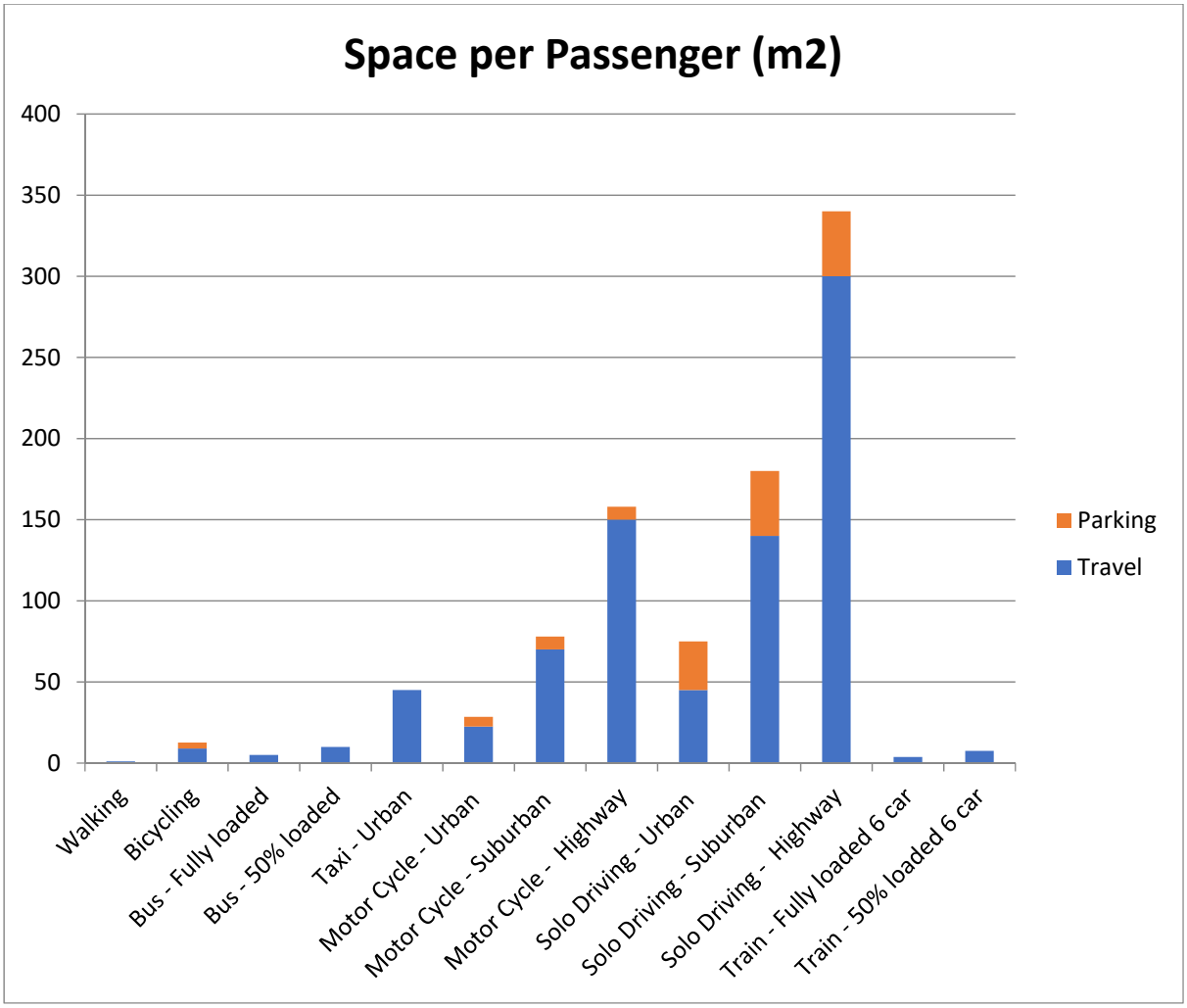
In addition to being a transport mode in its own right, walking has an even more significant role as the "first and last mile" connection to public transport. Public Transport cannot function without there being a safe walkable environment at either end of any journey.

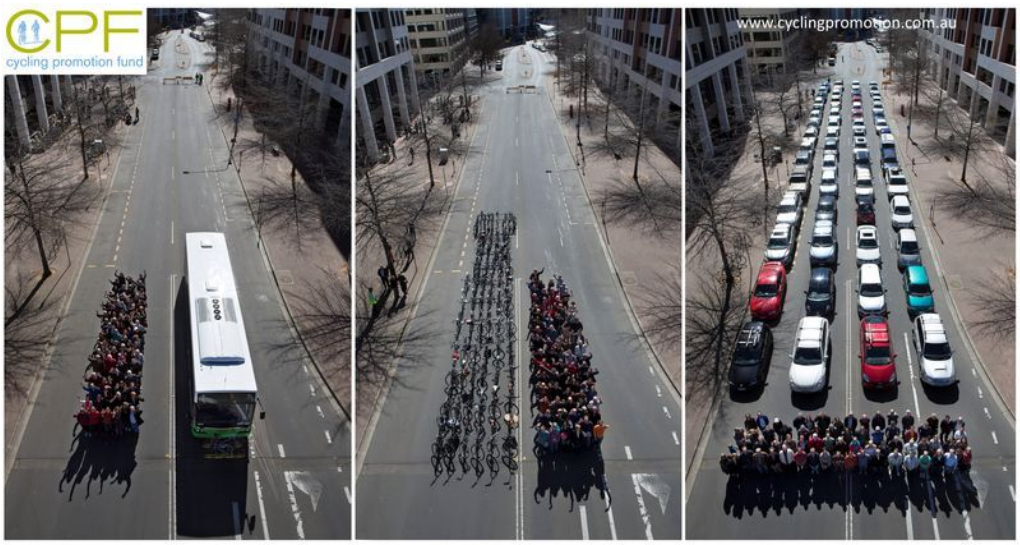
Walking is also impacted by large scale transport infrastructure such as major roads, freeways and railways. If built without adequate crossing points, such infrastructure can sever communities and render valuable public land inaccessible. Correcting these mistakes after the event can be costly or impossible. (Walking SA Recommendation 1)

Space and Energy Efficiencies

Building road infrastructure to solve congestion might make sense if it could be shown that building and operating public transport infrastructure were more costly than a road project that offered the same benefits. The telling fact here is that the cost of transport infrastructure is almost always proportional to the amount of land consumed, irrespective of the mode involved. Therefore, the more space-efficient a mode is, the more cost effective it will be. An analysis (Figure 1) shows that both walking and public transport offer space-efficiencies many times greater than road projects could ever hope to achieve. Consequently, it would be logically impossible for a road project to outperform an alternative public transport project if overcoming congestion was the deciding issue. Unsurprisingly, **walking which as shown in Figure 1 has similar space efficiencies to high capacity public transport, invariably achieves cost benefit ratios for projects of more than 10:1** This is much greater than the barely break-even ratios typically achieved by road projects.

Figure 1 Space-efficiency of different transport modes





Of particular importance are the connections between walking and public transport. Both modes are highly efficient from a space, energy and equity perspective. They are both complimentary – public transport is not viable without walking, and walking is not viable without public transport.

Federal Funding

Federal transport funding is generally only available for big-ticket motorised transport projects that are specially earmarked to receive it. This distorts the planning process at state level in that funds are simply not available for non-motorised transport, no matter how compelling the case.

Furthermore, large scale transport projects often have a detrimental effect on walkability. The possible reasons for this are discussed in Appendix 1. **There is a strong case that all infrastructure projects should not have a detrimental effect on walkability (Walking SA Recommendation 1). This should apply at both Federal and State levels.**

Connections to major institutions

Large public institutions such as major hospitals and universities should always be reachable by efficient Public Transport.

Examples:

Adelaide Oval (including the footbridge to Adelaide Railway Station)

Flinders Medical Centre (Flinders Link)

The new RAH has potential, but existing services need to be reinforced by better and safer pedestrian access across North Terrace, and the development of an adjacent underground station in conjunction with the proposed underground rail loop.

Technological Disruptors

There are a number of innovations likely to affect transport infrastructure decisions being made today. Autonomous Vehicles (AV), Electric Vehicles (EV) along with shared vehicles (SV) are likely to coalesce to become major disruptors and render current transport planning obsolete. While their timing and the way they might occur is uncertain, each of these disrupting technologies are inevitable and need to be planned for. Given the expected lifespan of transport Infrastructure (often 50 to 100 years) it is disappointing to see little serious discussion of them in this discussion paper.

Autonomous Vehicles (AV)

AV's have the potential to either assist or vastly worsen transport problems, depending on the policy settings in place when they arrive. By eliminating the need for parking (as we know it), existing parking stations could be rendered useless.

AV's may put pressure on kerb-space because of the desire for people to rendezvous with vehicles at peak times. Induced traffic caused by zero occupancy vehicles and the ultra-convenience of AV's may create far worse congestion issues at least at popular destinations. This effect will far outweigh the space-efficiency benefits gained by enabling AVs to run with short separating distances on freeways. Contrary to beliefs expressed by some techno-optimists within the motor industry and lobby groups, AVs are unlikely to reduce congestion overall.

Road User Charging (RUC)

Although it has proven in many jurisdictions to be a politically difficult thing to introduce, some form of road user charging is inevitable. The fairest system would be a charge for vehicle kilometres travelled (VKT) where the rate could vary by time of day and location. The technology to do so seamlessly could be built into all new vehicles at minimal cost. Australia

has no land borders, a captive vehicle fleet and established controls for accepting new model vehicles for registration. Australia is uniquely placed to achieve RUC capability for the whole fleet. The ultimate implementation of RUC will likely be triggered by the upcoming surge of Electric Vehicles (EV's) which will deprive future governments of vehicle fuel taxes. Having the technology in the fleet ahead of time and at zero cost would be a distinct advantage.

Impact on Walking

AVs have the potential to impact the environment for walking. On the plus side, AVs will need to be programmed conservatively, since there is no driver, and responsibility for any accident will rest with the manufacturer and the road authority. On the other hand, traffic would be severely impeded if as a result of this conservative programming, a single pedestrian on the roadway could effectively shut down the entire system. For these reasons, we expect long term infrastructure planning will always impact walking and vice versa, irrespective of whatever AV technologies evolve and how they do so.

Public Transport

Apart from the O-Bahn and recent projects to revitalise Adelaide's suburban rail network, there has been little infrastructure spending on public transport in Adelaide since the Webb era of the 1930s. The dismantling of the tram network in the 1950s is now seen as misguided, and a start has been made to re-establish one.

Road building is not an option

Adelaide's population has reached a point where the rampant demand created by our dependence on cars is reaching the capacity of our suburban arterial road network. Experience in every other city in the world of our size or greater demonstrates that any attempt to expand the capacity of the road network for cars would only offer temporary relief at best and would compound the problem in the longer term.

A staged approach

One of the reasons Adelaide's bus-reliant public transport system performs so poorly is that buses compete with private cars for space and are caught up in the congestion caused by cars. While trams would provide the ultimate solution for public transport along our arterial roads, much of their benefit would be achieved immediately and at lower initial cost by adopting bus rapid transport (BRT). BRT essentially involves reserving one existing traffic lane in each direction for buses. When bus patronage becomes high enough, those routes could be converted to tram routes. This conversion could happen gradually over time with minimal disruption to services. A possible sequence of stages could be:

1 Establishing BRT lanes with signage and red paint.
2 Moving the BRT lanes to the centre of the road (where trams will ultimately run)
3 Establishing protected bus stops (able to be used by buses and eventually trams)
4 Installing rails and replacing the tarmac, allowing buses to continue running.
5 Replacing buses with trams.

One of the key features is that during the major works in steps 3 and 4 and for maintenance, buses will always be able to run within the tram right of way, and only diverted out for the short distance where work is happening.

Another key feature (though it may not be initially appreciated by some) is the fact that the necessary right of way is reserved from day one of BRT operation, reducing the capacity of the road network to carry cars. While disruptive , this would be less painful than allowing car

traffic to grow, then shutting down an already overcrowded system while the conversion is made.

Parking

Given the expected arrival of AVs there is little justification for further expanding Adelaide's carparking infrastructure. At over $30,000 per parking space, any proposal to establish structured parking for a park-and-ride would be more costly and less beneficial than simply expanding or improving the feeder bus network.

Open-lot park-and-ride might however be suitable on the outskirts of the network where land is cheap and readily available. This could be seen as a "land bank", available for redevelopment when needed.

Other General Issues

Reform of Infrastructure Decision Making Process

The present "big band-aid", "money pot" and "shopping list" approaches to infrastructure planning are not objective and too open to interference by lobbying and political considerations. Planning for infrastructure should be done by an objective process that takes account of future needs, not current political imperatives or ideologies. Despite aspirations and statements in this discussion paper, these factors still persist. (Appendix 1).

A key factor is that the federal government gives infrastructure grants to the states where it restricts funding for particular issues, and often prescribes particular solutions. These grants typically require co-payments from the states, siphoning funds from smaller and often more appropriate projects and programs. This distorts the choices available and perpetuates many of the issues raised (in Appendix 1).

There has been a tendency for governments of both political persuasions and at both state and federal level to regard infrastructure spending as a "money pot" for delivering largess and for stimulating the economy when needed.

One result is that funding is almost never available for walking projects, even though such projects often outperform others that are funded but deliver much poorer cost/benefit.

Walking is constantly "below the radar" as we have pointed out in many places in our response to the present discussion paper. We have observed this across all portfolio areas including health, sport and recreation, local government, tourism and particularly transport.

Publicly funded infrastructure should be all about providing service to the community, not about building monuments to past glory**.**

A Model for Infrastructure Provision

We propose a way of looking at and planning for infrastructure, based on the fundamental requirement to provide infrastructure where it's needed and in the most cost-effective and efficient manner. This requires a multi-pronged approach:

Focus on service levels and efficiency

A key fact is that infrastructure is ultimately about facilitating service, and that service is often different, depending on whether it's most appropriately packaged and delivered for local, regional, state, national or international consumption.

It's not always possible or reasonable to deliver the same level of service to all locations. Nevertheless, all citizens have a right to some basic level of service, perhaps in different sized packages and perhaps in some places, less frequently or conveniently.

It follows that most infrastructure should be paid for, not out of discriminatory largess, but out of the long-term savings and benefits gained by enabling a given service to be provided more effectively or less costly. It should always be considered as an investment decision.

This type of reform would have to be implemented at both state and federal levels, perhaps involving local government as well. This would not be a short term reform, or something that would be confined to SA.

Develop a mechanism to fund small scale projects

Under the present system there is no mechanism for funding small scale projects, or projects like those involved with walking that would benefit a wide range of portfolio areas. **One approach would be to set aside a significant proportion of the current infrastructure budget that could be used for walking and walkability projects, and able to be allocated using set criteria.**

A final observation

A principle that pervades everything is that people should be able to meet their daily needs as far as possible within walking distance of their homes, or with the assistance of public transport. People should not need to own or operate a car in order to participate in the economy. The extent to which this is achieved, aligns with almost every other objective of government.

Summary

Walking SA want to see more people walking more often. We have shown that the problems with infrastructure are deep seated, and not simply due to a lack of funding. Infrastructure spending often fails to achieve what it needs to for walking, and often simply compounds the problems it attempts to solve. When viewed through the lens of walking and walkability, the various deficiencies in our system of building and maintaining infrastructure can be clearly seen.

Walking SA call for:

1 Walkability Impact Assessments
2 Collection of data and measurement of Walking
3 Walking Infrastructure Funding
4 Reform of Infrastructure Decision Making Process
5 A Model for Infrastructure Provision

Appendix 1

General Issues with infrastructure projects

These issues are common to infrastructure projects. In fairness, these occur to one degree or other in many jurisdictions and cultures around the world. We owe it to ourselves that these mistakes and pitfalls are not repeated here.

Lack of Accountability

Projects often not evaluated afterwards to check that promised costs & benefits have been achieved. Where they exist, accountability measures are often too blunt, too short term, or inappropriate.

Political Expediency

Infrastructure planning and proper process is often undermined by "pork barrelling" and other forms of political interference.

Excessive but narrow focus on "on time on budget"

Desirable outcome: Short-term costs and long-term benefits. Often the reverse happens: Long-term costs and short-term benefits. A desire to design and implement a project within a single election cycle often means long-term consequences are not considered, or that the negative impacts are brushed aside in the haste to get the main objectives achieved in the minimum time.

Subsidiarity

Often infrastructure projects are deliberately promoted as "silver bullets" that are too big to control and can crush the very things they aim to help.

Projects should be conceived, funded, managed and controlled at the lowest possible level.

Business as Usual

Projects often used to support current and possibly declining industries with no long-term future. Projects promoted by established industries or lobby groups are particularly suspect.

Incremental

Projects should be part of a continuous process rather than as stand-alone "big bang" or "big band-aid" projects without thought for the consequences. Incremental and staged development often allows projects to be completed without long periods where existing services have to be shut down completely while new infrastructure is built in their place.

Continuity

Infrastructure projects are often conceived as "money taps", that can be turned on and off at will. The long-term consequences of developing human capital only to discard it at the end of the project can be devastating for the people involved as well as wasteful of the skills developed. The mere fact that a project is completed usually ignores the ongoing nature of the problems/issues/opportunities the project seeks to address.

Project Pipeline

A good way to achieve this is often to establish a project pipeline of similar projects that can be executed sequentially or as a progressive "roll-out". These projects can develop a momentum which becomes self sustaining and highly efficient.