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Theme :
"The Changing Face of Transport in New Zealand"

Contribution by David Willmott BE(civil), DipTP, DipMgt,
Plus : Political Science, Philosophy, Economics, Transport Energy, Res.Mgt., etc.
Centre for Urban and Transport Studies < david@CUTS.org.nz >

ARE WE TALKING REALITY HERE?
ARE THERE ANY REAL ENGINEERS STILL OUT THERE?

ABSTRACT

The face of transport in New Zealand is certainly being changed. But are those changes responding efficiently to local ratepayers' reality-driven wants, needs and affordabilities, not least including for efficient inter-accessibilities? That is, do they advance human flourishing ("Economic Development") as claimed to be sought by successive governments? Or are our planners "thinking globally by acting locally", as urged by global (and globalist) agencies, to impose a single, wholly subjective, globalist, formulaic and stasist interpretation of "Sustainable Development" on all our cities, using transport as a tool to constrain expansion and promote change in urban form and density. In reality, such planning is accelerating reconstruction of our cities and increasing use of all resources including energy at huge expense without regard for the detrimental socio-economic effects now everywhere apparent, and for why? Are the environmental 'goods' sufficient to offset such socio-economic suicide?

Human flourishing within environmental limits is the whole purpose of society and the planning of its cities. Economic Development and Sustainable Development are both important objectives in urban development, but often conflict. Do our present structural arrangements enable proper and balanced ("integrated") consideration of both in genuinely public decision-making? Or are Engineers and the special fact-based contribution they bring being 'railroaded' by incoherent global forces into accepting a single ("Smart Growth" aka "Compact cities") planning formula with major ramifications for transport, which has no rational foundation for "sustainability" claims, is scientist but not realistic, and produces cities which are increasingly unaffordable, socially divisive, environmentally (net) degrading and (relatively) unliveable?

Socially and economically, our societies are nearing the end of their tether. **Engineers, where are you? Have you no answers? Why have you not sounded the alarm?**

The paper addresses such questions, identifies trends and forces, provides explanations if not justifications, and suggests a way forward for engineers – and possibly society at large.

1.0 IMPLICATIONS OF CONFERENCE THEME

1.1 First, what is this 'Changing Face of Transport'?

The author understands the widespread presumption as to "the changing face" to include :
- 'de-carbonisation' of auto-exhausts, ie cessation of carbon fuel use in automobiles, is held to prevent runaway global overheating (*even 'though all forms of transport together consume only 17% of NZ's total energy supply, 97% of atmospheric CO2 comes from biological sources, all forms of carbon fuels emit less than 3%, and the total accounted for excludes volcanoes and forest fires as 'unknown quantities'*).
- Coercive public transportisation will save a portion of this 17% *(it won't).* in any case transit can be powered by non-carbon "sustainable energy" *(as can automobiles)*
- Road user taxes will be increasingly diverted to those who conform to Council preferences, eg transit users, cyclists, walkers and admirers of the view. (*Any forced cross-subsidy is economically debilitating; why not get users to pay for themselves?*)
- No more general purpose urban arterial road-space is necessary.*(It absolutely is.Use of existing road-space for purposes other than kerb-side parking or general-purpose traffic will exacerbate costly congestion. In other nations people have not been persuaded by congestion to shift to other forms of transport as planners widely presume.)*
- Cities can continue to function economically and efficiently to produce wealth even if 'de-coupled' from vehicular transport *(Naive nonsense).*
- People should walk or ride bicycles for their health's sake rather than using motorized transport *(regardless of infeasibility? Economy? Time? The belief seems to be : build it and they will come. But methinks society can't be engineered like that)*
- Electric vehicles will soon totally supplant carbon-powered vehicles (*Tell that to the oil companies!. In any case, EVs cost more to build, require rare earth metals, will require queueing plus half an hour to recharge, and no-one has addressed the very real problem of where all that extra power (a costly 5-fold increase?) is coming from, especially when only intermittent wind turbines have been built lately, backup is an expensive problem, and resistance to the wind turbines is building fast.*
- People need not have 'love affairs" with, nor be "dependent on" personally-owned cars *(Why not? Is it not human to like the car you buy? Should planners be able to dictate personal likes and values, or even residential location so that at one person in a household need not drive to and from his/her work, regardless of his other transport needs, and regardless of the disparity between average house tenure (7 years) and average job tenure (2 years)???)*
- Publicly-owned "share" vehicles and taxis will reduce the number of vehicles on the road. *(Nonsense. Travelers count, not vehicles. Try getting transport in peak hour),*
- Driverless vehicles will enable short-headway driving thus reducing congestion. *(Thoughtful commentators have far less confidence in the infallibility of driverlessness, A driverless vehicle has already been deliberately crashed by a hacker. Can driverless cars be so safe as to not need backup drivers, e.g. with minimal headway in a tunnel? What about a malfunction, such as a flat tyre? Running out of fuel?)*

Assuming we can survive the current economic debilitation and social division, the author is persuaded by those who believe that **the transport mode and power source situations will not change much over the next 25 or even 50 years.** Minor changes may include more sophisticated accident-avoidance, a lower-cost method of propulsion, and an economic demand for arterial road-space and arterial road network development population-wise proportionate to that which was accommodated in the early eighties at a C/D level of service.

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1.2 Market-driven or centrally-planned?

The conference theme **i**mplies (in an assumed "free choice" democracy) a rational response to changing socio-economic circumstances made to suit the general public's wants and needs, desires, affordabilities and preferences **("wandaps").** As such, the "changing face" would be commonly understood and supported by the public. But it isn't.

Transport planning and provision today is far from rational in any sense the public can understand. 16 RMA amendments have failed to resolve public discontent, and demands for a complete overhaul of planning legislation grow daily louder. For RMA-defined "Resource Managers" quickly dropped all pretense at "managing" the low cost and easy-access "enablement" of "more market" choice (with reduced overhead costs) intended by the RMA, reverted to being Town/City Planners in all but name; and imported from America a formula (**"Smart (sic) Growth"**, known in NZ as 'Compact Cities') for their creation of an aesthetics-based, nominally "environmentally-correct", cost-/affordability-disregarding 'designer city'. The result is 'C&C' central planning with no mechanism for open debate of planning issues by those with a different value system? <u>Planners have been made judges in their own cause</u>.

1.3 Origins and nature of the 'Smart (sic) Growth' planning formula

The formula, based on an "urban design" concept initially applied by Duaney Plater-Zyberk architects to exclusive residential enclaves, was expanded by Californian architects for appl-ication to whole cities. Portland OR became the leading exemplar, and, rather than local planning responding to local circumstances in an RMA-directed way, **Portland Plan was imported as the model for the (RMA-required) Auckland Policy Statement and Growth Strategy,** then that same 'Smart Growth' formula (known here as 'Compact Cities') spread throughout New Zealand. Fortuitously for central planners everywhere, the U.N. adopted "Smart Growth" as the epitome of its concept of "Sustainable Development" for no obvious (or even obscure) reason other than control of humanity, ostensibly for its 'environmental effects'. But what about effects on humanity by variously unpredictable environments?

Errors inherent in this U.N.adoption and its promotion have already cost the world very dearly, and are upsetting societal arrangements (and debasing all the benefits of the Modern era) globally. Indeed, it is driving the social and economic collapse of western civilization by rendering suburbanized and motorised cities unworkable, unaffordable, and socio-economic-ally "unsustainable". **Must our society voluntarily harm itself like this,** just to fulfil some "voluntary" agreements (made without public involvement) to implement eminently-question-able UN ideals and signal virtuousness, both to it and an undefined, incoherent unaccount-able **absolutist global enviro-planning 'technocracy"**, analogous to the global Military-Industrial complex? Especially when that technocracy is subject to lobbying, propaganda and manipulation from special (self-) interest groups, yet has no single authoritative face with which to argue? Such is the stuff of conventional wisdom; always ill-founded, usually wrong.

Under these circumstances, can the conference theme in any way reflect a rational response by the local public to real (local) wandaps? What do planners think such wandaps are, assuming such matters concern them, and what is the source of their knowledge? For it seems to a casual observer that the sort of wandaps with which CUTS is familiar have been roundly ignored by the planning formula, and are not reflected in the presumptions listed in S.1.1   Have any claimed environmental effects been persuasively defined and quantified, and have any feedback effects on society of any deference to them been openly debated and properly justified, to the satisfaction of the public, rather than planners alone? And if not by the public, by independent Professional Engineers, elsewhere if not in New Zealand?

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1.4 Planning of Transport to promote the 'designer city'.

Subsequent changes to NZ Transport Legislation required Transport Planning Engineers to implement Planners' instructions for 'integrating transport with land use'. This sounds constructive, but the briefest of consideration reveals there can be no sense in forcing connections for an immediate design if it freezes the city to behave that way for all time. The value in a general purpose road network is **flexibility** to accommodate changing needs

Such control of transport provision is evidently considered to be so absolutely nece-ssary as to over-ride real local wandaps – which can be expected to change with time. But there is no discoverable proof that the sacrifices involved will actually achieve anything other than coll-apsing the economy and dividing society. Regardless of acceptance or not of the 'exhaust-pipes cause climate change' theory, public transport is no more energy-efficient day-long than auto-mobility – but forced re-centralisation and unaddressed congestion both increase energy use. Densification may preserve de-naturalised peri-urban hobby farms, but at the expense of urban wildernesses, gardens, big trees and wildlife. So who/what is deciding 'The changing face of Transport throughout the world' (thus NZ), and for what purpose if not just to use transport to impose inflexible, materials and energy-wasting, anti-human 'designer cities'?

Has this question been persuasively answered anywhere, by the nebulous, unaccountable and unrecallable internet-based **global Technocracy** which (today) is (apparently, de facto and by default) the 'source' of the perception of 'World's best practice' implicit in the confer-ence theme? If so, where, because a life-time of searching has revealed only the opposite.

1.5 Stance taken in this paper

This writer asserts that, in our general current perception of 'The Changing Face of Trans-port in NZ' and any reasoned expectation (and observation) of the consequences of Plans incorporating it, **no careful or even casual consideration has been given to current or foreseeable future local wandaps, to the need for flexibility to accommodate longer-term and unforeseeable functional needs, to the need for economy in use of materials and energy consumption, or to the real nature and effects of environmental consequ-ences, quite apart from observably detrimental effects on society and its economy. Rather, we have naively accepted the 'leading' American (Portland OR) aesthetics-based 'designer city' as a model for local planning as if it reflects RMA requirements (it absolutely doesn't), on the grounds that the United Nations has adopted it as the epitome of "Sustainable Development" (which it clearly isn't in any sense of the term) on the presumption that such planning (known as 'Smart (sic) Growth') represents 'world's best practice', foolishly including suppression of efficient inter-accessibility?**

Such is entirely counter-productive of RMA-envisaged 'enablement planning', as is increasingly evident in progressive degradation of NZ's living standards and affordab-ilities, which planners ignore as the price which must be paid if we are to implement 'world's best practice' and earn 'Brownie points' from UN agencies and Enviro-NGOs.

After a quarter century of such planning, socio-economic degradation is widely apparent. In particular, it includes housing (land) unaffordability to a growing percentage of (would be) first home buyers (addressed in a parallel CUTS paper), and increasingly costly congestion, conservatively estimated at $1.9 billion p.a. (but realistically $4 billion p.a.) for Auckland alone Yet planning in New Zealand is so structured as to create monopoly empowerment of planners. But they have demonstrated many times that they will not voluntarily change their Plan regardless of the strains it causes, so **restructuring has become essential**

2.0 TRANSPORT DRIVERS AND INFLUENCES

2.1 Real Transport wants and needs

Cities exist to facilitate easy inter-accessibility between all peoples and all land-uses within a city – and its hinterlands beyond. That inter-access is for the purpose of self- and family-betterment, achieved through market trading or locations and institutions providing goods, services, skills, inspirations, and/or entertainments. Cities exist for no other reason than to enable individuals to flourish and societies to prosper. It is counter-productive of their very purpose, and frustrating of the very flourishing which all life forms are genetically-driven to progress towards, if the inter-accessibilities of cities are deliberately channeled, diverted, or otherwise rendered less effective than that achievable using the most affordably-effective forms and modes available for any particular personal purpose.

2.2 Government taxation and cross-subsidisation

Oil flows out of the ground in Saudi Arabia without pumping, often at less than 20 cents per litre. Processing, royalties, transport and storage adds less than an NZ dollar. More than half the price we pay at the pump is tax in one form or another, and now the government wants more, principally to fund mostly inefficient and unsuitable thus unpopular modes of transport. Any tax on carbon fuel is just another tax on commerce, already wilting under Government's various social loadings. Little wonder our (net) productivity is about the lowest in the OECD.

2.3 The global Gaia and its relevance

Planet earth is a complex system in its own right, influenced by solar galactic and universal forces without and tectonic, oceanic, climatic, erosional and biologically-evolutionary forces within. It is in a constant state of change, subject to some barely-discernable and irrationally-changeable cycles, with many, many unknowns. It is never in a perfect and stable state as implied by the 'Garden of Eden' presumptions and prescriptions of the naïve, idealistic and usually unscientific and anti-economic zealots, who somehow 'know' what that stable state should be, and are determined that the world should be returned to it. To that end they have crafted in turn the UN Agenda 21 (recently re-booted as Agenda 2030), the 'Earth Charter', 'Millennium Goals' (with which the UN is ever-seeking power – and funds - to require of Western nations), and a universal "Smart (sic) Growth" formula for Urban Implosion, known in NZ as "Compact Cities", and claimed to be the epitome of "Sustainable Development".

In reality, Smart (sic) growth is a recipe for gross wastage, prices outstripping incomes, and ultimately economic collapse of over-indebted western civilisation. Maurice Strong, chair-man of the Earth Summits (1992 and 2012) described the UN's Sustainable Development's effects on the western world as a **'wrenching transformation'.** Various leading environ-mentalists have been quoted as advocating active reduction in global population to levels they consider to be sustainable; - variously 6 billion, one billion, and half billion. Nowhere can one find any justification for these figures, any more than why the 10.5 billion peak forecast is in any way excessive, given the unknown consequences of any enforced reduction. The current 7.5 Billion global population fits within the Wellington Region at 1m2 per person; future increases mostly derive from presumed increases in longevity rather than 'turnover'.

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2.4 Oxymoronic "Sustainable Development"

Sustainable Development has been defined many times, never more recognisably than in the UN's Brundtland Committee's definition, which – like all the others – is wholly subjective and of no interest or use to the rationally objective discipline of Professional Engineering. Trading the interests of current populations off against those of future generations requires knowledge both of how many generations and what will be their technologies and needs – clearly the field of clairvoyants rather than engineers.

In effect, 'Sustainable Development' is codification of the '60's complaint **:** "Stop the World; I want to get off". Its principle effect has been to shift developmental 'enablement' of personal and family betterment and societal prosperity from the Scientists and Professional Engineers who specialise in real-world Economic Development for the satisfaction of local WANDAPs, to artists, aesthetes, environmentalists and other ('Arts-side') idealists who first collectively 'envision' an ideal world, then impose it through Plans and regulations. Current Plans clearly ignore local WANDAPs in favour of bureaucratic "commitments" to the UN / UNEP / ICLEI's 'Smart (sic) Growth' formula held to epitomise "Sustainable Development', regardless of its cost and unaffordability by local ratepayers on whom that cost is imposed.

Sustainable Development is widely interpreted and applied as 'perfection or nothing'. Sustainabilists ensure perfection by applying the UN-adopted 'Precautionary Principle'; 'don't allow anything if there is any chance of any detrimental effect as subjectively determined by any sustainabilist, including UN agencies for which the 'Sustainable Development' mantra has become (de facto) their route to global power and enrichment. To that end, development in stages as affordable can no longer be "allowed", the countryside has to be frozen around a preferred mix of favoured species, prevention of any accident becomes paramount (and cripplingly expensive), and exploration for coal, oil and gas is to be actively opposed, along with the automobility and the market access – thus productivity and human flourishing - they so conveniently and economically enable. And all so that the UN can pretend to "manage" an historically-variable climate – which is always in any case either going up or down, and has until recently been warming out of the 1700's mini ice age.

Contrary to assertions as to the 'productivity' and 'job-creation' of Sustainable Development, it's various manifestations invariably restrict or oppose Economic Development and Progress which Professional Engineers exist to facilitate (RMA S.5 **:** 'enable'). As currently applied it is destroying societies which have adopted "Smart Growth"-style "management" of develop-ment. It is thus a contradiction in terms, being opposed to Economic Development

2.5 Earth Charter for "Wrenching Transformation"

There is no rational justification for **"World's Best Practice"** as provided by conventional wisdom believed (again without foundation) to be sourced in some (presumed) all-wise, thoroughly-researched and openly-documented **global 'Technocracy'** behind the Earth Charter and Smart Growth formula-planning.. But diligent searching has yet to reveal such documentation, or even reveal persuasively defined criteria whereby any particular type of urban development can be considered 'Sustainable' – or not. New Zealand's quarter acre sections were deemed sufficient – with garden, fruit trees, chickens – to feed a family of ten. Are quarter-acre subdivisions not one measure of humanly sustainable development?

On the other hand, Local Plans built on the 'Smart (sic) growth' formula are already demon-strating through their consequences the intent expressed by Laurie Summers, chairman of the Earth Summit, that the Earth Charter should impose a "wrenching transformation" on societies and their economies. But neither Summers nor anyone else has justified why Gaia

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supremacy should displace ongoing civilisation as humanity's primary goal, especially the goal of those with annual incomes less than US$5,000 who are responsible for all growth in global population and most 'detrimental environmental effects', or explain the real nature of the outcomes sought, especially for such people. Nor is there any warning of a "wrenching transformation" in the Smart Growth-based Plans approved by our political 'servants' (or are they masters?) Rather, they sign off on our enviro-planners' S.G.Plan which promises to deliver 'All things To All Men" (with no stated downsides or unintended consequences) while concealing the necessary value-judgements and trade-offs behind the (supposedly) optimum compromise achieved through the mysterious process of "integrating" everybody's (current?) wandaps. This process also (supposedly) ensures that the Plan renders everything "sustainable" (including species and planet Earth – and whatever else 'sustainability' is held to include – or exclude, such as humanity) while also "enabling" Economic Development"(?)

This is not to argue that environmental effects can be ignored. But it does imply that, without open debate, claimed detrimental effects can be grossly exaggerated, while the benefits to humanity of flourishing through resource use – including the generation of wealth necessary to fund environmental protections, and not least to achieve the income of $5000 below which attaining minimal living standards command all efforts – are noticeably absent from calculations of environmental 'costs'. Prudent and open societies naturally address any fouling of their own nests in a manner calculated to still enable flourishing, while also using resources efficiently. Where effects spill over into international airs or waters, there is a clear case for international agreements. **But UN/UNDP and the global Technocracy it presumes to draw on has no justification – far less jurisdiction – for attempting to control our urban Transport choices (or energy use), any more than the Town/City Planners we pay to "enable" (RMA S.5) such choices rather than pre-empt them.**

2.6 UN / UNEP / ICLEI + IPCC mantra "Think globally, act locally"

The UN was initially set up as a form of proto Global Government, intended (by some) to provide a forum for peacefully negotiating solutions to international problems. From that start, some of the initiators saw a much more powerful future for the UN as the global government for a 'New World Order'. From the time it first existed, various parties have sought global power to impose their ideology through its institutions, always behind the likes of Agenda 21, Millennium goals, Sustainable Development, Man maketh climate change, the Earth Charter, Agenda 2030 a 'command and (forcibly) control' human behaviour globally.

With the onset of environmental awareness, the United Nations adopted a role as protector of the planet – against man. There is some justification for such a role on behalf of global commons (seas, air, waterways that serve more than one nation) and the tendency of any one nation to dump its rubbish in another nation's back yard. And in some respects, humanity is pushing up against natural "Limits to Growth". But with a few notable exceptions, factually-reliable sources demonstrate the true state of the planet is not nearly so alarming as claimed by those benefitting from such alarms. (Indications are that carbon fuels will prove to be available indefinitely until super-ceded by some even more compact, cleaner, cheaper fuel.)

In particular, there never has been a 'shortage" of carbon fuels outside of 'normal' industry booms and busts", contrary to conclusions drawn from the "known recoverable" resource maintained at 20 years supply. There may be no limit to unknown resources recoverable with future technologies. An (almost?) inexhaustible supply can be inferred from planetary carbon content (GNS considers NZ gas supplies are essentially inexhaustible), but history indicates some even more economic sources will become available when actually needed.

In particular, even if one believes the (implicit) assertions that (only) automobile exhausts change climate for the worse (despite more people being killed annually by cold than by heat) there is no net atmospheric effect or energy-saving if all automobile use converts to public buses even without the detrimental effects of re-centralisation (thus average trip-extension) and increased congestion. Any form of rail transit is a greater consumer of energy per person-km delivered, day-long, than either cars or buses. On the other hand, densified dwelling uses more energy per capita than traditional suburban housing, both in construction and in use, while industrial and commercial energy consumption continues regardless. Taking into account the net loss of proximate natural environment through densification, together with the highly modified nature of non-productive peri-urban 'hobby-spreads', the <u>net</u> environmental effect is at least debateable; and in any case insignificant in wider context.

There is thus no justification whatsoever for the UN to interfere with the likes of local development planning or migrant flows (urban populations) as it seeks to do through its Environmental Program agencies, IPCC and ICLEI, and the likes of its "Migration Compact". **The UN mantra "Think globally, act locally" is an incitement to treason** in supposedly sovereign nations like New Zealand, which claim to promote Economic Development and pursue freedom of choice and democracy for its own citizens, yet adopt UN dictates as to what and how urban development should be allowed to occur, if at all.

2.7 Global population – expectations and designs

Today, the global human population equates with Lake Rotorua at 1m2 per person. Other species – rats, ants, spiders – are far more numerous. Elephants smash and uproot Kruger bush, while all animals muddy and defecate in waterholes. Volcanos and fumaroles (85% in the sea), 'red tides', asbestos, radiation and many other natural sources are dangerous to all life forms. Throughout history, the gross oxygen demands of (ever re-balancing) fauna have been met by flora consuming CO_2 as their primary food. Any reduction in human population would result in growth of other species to maintain the flora-fauna balance appropriate for the current atmosphere. In dinosaur days, when plants grew so rapidly as to feed such monsters, atmospheric CO_2 concentration was 15 times the 400ppm current level.

Even 'though all significant nations except China, India and Brazil have human reproduction rates below replacement, the momentum built into total global population by virtue of greater longevity will ensure it reaches 11 billion before the decline then made possible for all nations with family incomes exceeding US$5,000. There is absolutely no basis for deciding – as certain Enviro-NGOs have decided – that global human population should be forcibly reduced to (respectively) 6 billion, one billion or half a billion, any more than their deciding that "current CO_2 concentrations are too high". Any lower than 150ppm – dangerously close today compared with dinosaur days - would result in no life on earth.

H L Mencken said **"The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by menacing it with an endless series of hobgoblins, all of them imaginary"**, and **'For every complex problem** *(and what is more varyingly complex than a city?)* **there is an answer that is clear, simple, and wrong".**

2.8 So does the theme reflect reality? Whose?

As shown above, actual local wandaps, are manipulated and distorted by a range of other interests all seeking to use transport to further their own ends. Thus short answers (based on all of this paper) are "NO" and "NO-ONE KNOWS". Longer, more thorough answers are presented together with references in the full (50-page) expansion of this paper {including also for anti-economic land-use) accessible on the website < ***REALLY***smartgrowth.com >

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3.0 ON PROFESSIONAL ENGINEERING

3.1 Origins, specialised nature, purpose

More than other species, Homo Sapiens developed personal ingenuity in solving personal problems. Tribal respect for ownership of property so created encouraged specialisation and voluntary exchange, advantaging both parties and increasing total tribal wealth and welfare. This process of '**Economic Developme**nt' is thus a manifestation of the fundamental nature of man. In contrast, similar species (Neanderthals, Davidians) used stone-age tools, but barely developed over their last million years because they lacked the convention of private property ownership, thus the incentive for innovation, thus Economic Development.

From the time hunters and gatherers settled into cooperative territorial tribes, the building of huts required constructional skills. Stone structures challenged masons; master masonry was born, fore-runner to **today's Professional Engineering**, which could thus be described as the world's third oldest profession (cooking being the second). Artistry combined with a clear understanding of stone's predictable nature and behaviour resulted in some amazing ancient megaliths and very fine buildings still surviving today. Then repressive government aided by religious intolerance resulted in hundreds of years of 'dark ages' when innovation was actively discouraged and civilisation stood still, with underclasses returning to serfdom..

The Renaissance changed all that, releasing humanity from such artificial bounds, to once again soar with imaginations fettered only by the engineers' ability to 'enable it to happen affordably'. 'Affordability' was selected by some funds-limited patron; ultimately society itself. The **'Modern Era'** was born. The likes of Arkwright, Stevenson, Brunel, Roebling and Adam Smith once again achieved magnificent structures and improvements in other areas based on hard scientific findings as to what constitutes nature-based facts, realities and affordabilities. As specialisation of skills complexified, the innate human ability to be both imaginative and practical was separated (at least in part) by profession. Institutions such as the British Institution of Civil/Civic/Infrastructural Engineers focussed on the practical side of the 'natural pair', setting aside personal values for the impartial "enablement" of the efficient production of wealth and welfare. Engineers were described as "harnessing the great powers of nature for the benefit (not restraint) of man", and being "able to do for sixpence what anybody could attempt to do (far less efficiently and effectively) for a pound". If the engine of the Modern Era was the ability to think freely, imaginatively, and innovatively to solve humanity's most pressing problems, that engine was 'enabled' and kept on the rails by impartial (values-free), realistic, natural fact-establishing, reality-oriented and affordability-conscious engineers.

3.2 Professional Engineers are natural fact-driven and cost-conscious realists

They have to be; any failure of materials or methods to reflect their natural characteristics and perform as required can result in a client wasting much time and money, and worse. There is no room for personal preferences; the client expects his own wandaps and values to be realized.   After all, it is his money, not that of a dictatorial engineer – or any enviro-planner imposing an unrealistic social or environmental barrier to economic development .

3.3 In contrast, Professional (Town/City) Planners are generalists and idealists whose visions are unrestrained by realities such as economic costs & benefits

Architecture and architecture-based town planning split off from engineering to enable specialization in the human sense of simplifying order and aesthetics. Emphasis was placed on the latter with far less constraint by financial and functional considerations. The complex

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and eternally varying nature of cities reflecting the wandaps of all citizens is far more difficult to understand and 'design' for than those of a single client; the author considers it impossible

Similarly, architectural and civic planning evolved from a combination of monarchical and/or public needs; (i) creating civic spaces to achieve a nation's or a monarch's glorification, (ii) imposing minimum standards for daylight, drainage (health) and fire risk reduction measures publicly required (since the 1666 Great Fire of London) of low-cost areas, (iii) designing layouts for "New Towns" constructed for workers in a new industry alongside the basic resource, and (iv) zoning to protect residential areas from noxious industry – and unwelcome neighbours (especially in 19th century USA).

Both Architects and (derived) Town Planners gravitated to the "Arts" side of an increasingly specialized division of arts from sciences, where imagination, optimized visions, ideals, and ideologies were maximized at the expense of worldly realities including costs, which could be imposed on all citizens by the crown regardless of their class and relative affordability.

3.4 On science and Scientism (groundless pseudo-facts, ie 'false facts')

Engineers, as applied scientists, seek after the ultimate truth in natural realities using the 'scientific method'. This involves hypothesising ultimate reality then devising experiments to 'prove' that it is not falsifiable. Ultimate truth may be closely approximated for a particular set of circumstances if it relates to the inanimate materials used in engineering.

However, any such approximation is necessarily much cruder and less reliable when it relates to complex living objects such as humans and societies, which behave highly variably depending on the nature of parameters selected for consideration. Nevertheless, the social/societal subjects – including town planning – use the scientific method to provide a basis for planning which may be (indeterminately) unreliable. In any case, when starting with a vision for some future state of a city different from what would occur if left to public preferences, planners are sometimes asked to 'justify' their vision, which can only be done by manufacturing such a 'justification' on the basis of loaded or misinterpreted questionnaires. Planners describe such justifications as "evidence-based", but others may see them as derived from biased or groundless pseudo-facts ('factoids', 'alternative truths')

Typically today, only one developmental option ('Plan') is presented, represented as 'a fully-integrated compromise optimising the overall sustainability of development to incorporate society's values'. But those values have never been identified and voted on; typically they reflect planners' presumptions of values, obtained by (potentially 'loaded') questionnaire or in 'workshops' for a selected few 'stakeholders' all biased in promoting their sector's interests. Any change to the Plan may be seen as upsetting the 'fully integrated compromise' it is held to represent. Unintended consequences can only be ignored. Under such circumstances, consultant's reports paid for by Council can be expected to dance to Council's tune. Otherwise, the consultant would be quickly out of business. Such corruption of scientific enquiry flows automatically from the monopoly power conferred on Planners as "integrators".

Thus two streams of perceived reality develop; - that emanating from truly independent engineers (mostly disappearing as independent engineering departments were disbanded), and that emanating from planners and their consultants and Enviro-NGOs whose reports today tend to be built from groundless pseudo-facts to support the Plan. Planning studies notably dismiss the evidence available from (mostly older) independent engineering sources, viewing them as 'outdated'.Yet realities such as that known to engineers well before the 1974 OPEC oil price hikes that **coercive public transportisation is no way to save energy** still obtain today, despite planners believing oft-repeated Enviro-NGO assertions.to the contrary.

3.5 Changing times for old-style Professional Engineering.

Up until the 1960s, New Zealand's originally 'undeveloped' state was the target of Economic Development alone, evolving from a 'hack it down and drain the swamp at minimum cost' approach to the rather-more-sophisticated developmental engineering which, after WWII, increasingly reflected conservation awareness. Today, while acknowledging development's benefits, even engineers regret some of the environmental excesses preceding the 1960s.

But the Ministry of Works and Development's (MWD's) intended raising of Lake Manapouri for power generation first awakened the wider public to the environmental values at stake. Planning was removed from being a lowly department of the MWD, and became the primary focus of a new independent Ministry for the Environment (MfE) Politicians then became the target of competing advisers respectively promoting realities and ideals, and got to fulfil their proper role by making the necessary value-judgements and trade-offs to meet budgetary constraints. The process kept both Professions honest. That is, until those subscribing to the view that 'NZ's development days are over', had the NRB, MWD and City Engineers' Departments dissolved through changes to the legislations empowering them.

With the RMA becoming law in 1991, responsibility for economic evaluation of all prospective policies and regulations was passed to Planners (RMA S.32), who effectively were asked to be a judge in their own cause. The planning profession's strengths lie in visions and ideals unrestrained by mundane matters such as economic relevance **;** evaluation of same was an unrealistic request in the first place, and experience since has proven this to remain the case. Since engineers lost influence, transport projects have cost anything from 150% to 1000% of the cost necessary for adequate and affordable (ie truly 'sustainable') solutions (S.4.8)

The new RMA and dissolution of MWD etc subjected engineers to planner dictate, enabling the (ideals-based) Ministry for the Environment to become (de facto) Ministry for Everything. 'Modern' engineering pragmatism, realism, preoccupation with nature-based ('true') facts as the basis for efficient and sustainable functionality, cost-conciousness and affordability cons-iderations all became passe in an increasingly unreal **Post-Modern world** (qv) which treated environmental ambitions (and 'safety'!) as absolutes to be achieved regardless of all else.

Thus the very basis of wealth-production, economic development and the profitability from which safety, general welfare, and environmental protections can be funded is today being deliberately reversed. That basis is free and well-informed personal thinking, choice and action for personal and family betterment by direct negotiation in an open society. Planners and other idealists are now empowered to 'integrate' all decisions previously made by indiv-idual citizens thus taking unto themselves all choice and cancelling the source of human flourishing. Consequently our society is in decline, with average per capita debt reaching dangerous levels, increasingly rapidly as the confusion of a **Post-Truth era** (qv) sets in.

Today, engineers rarely undertake benefit/cost evaluations. When politicians ask for them, the public service typically consults firms of economists or accountants whose engineering knowledge (eg of options) is limited (to say the least). Input data provided by the client may be 'adjusted' to ensure the required answer is justified (q.v.). Moreover, the Institution of Engineers has changed its code of ethics to emphasise sustainability at the expense of economy in an attempt to curry favour with potential clients. In doing so it copies enviro-planner integrationists in making value-judgements and trade-offs which are more properly the prerogative of the client, while signalling virtue to those promoting enviro-worship. Thus engineers sacrifice their previously uniquely secular thus useful characteristic of being an impartial source of facts and realities, so consigning themselves to irrelevance.

3.6 The rise and rise of Post-Modernist attitudes

Environmentalists and planners are not alone in subverting the engineering perspective. They are just representative of a surge by the whole of the arts side of human nature as led by the Derrida-following social believers. They are hardly social 'scientists' as claimed because they reject the whole idea of scientific 'facts', proclaiming rather that 'everyone has their own truth; 'scientists and engineers just invent factoids to suit their own empowerment'.

Such an attitude certainly derogates scientific facts and elevates the self-confidence of anybody deriding them. But with governments throwing money at educating (almost) everyone to tertiary level, the arts-side social believers (a) today outnumber science-side graduates by about 4 to 1, thus use the university administration systems to help impose their beliefs,(b) disregard people's genetically-guided resistance to being socially engineered, pres-uming their tertiary education entitles them to design others' lives, (c) being largely unemploy-able in the private sector, create alarms and sell themselves as 'alarm fixers' to government and local government in overwhelming numbers, (d) encourage the substantiation of their position with 'false facts', having no regard for real scientifically-established facts, (e) follow the UN's dictatorial lead in promoting enviro-worship through 'sustainability', and (f) believe the world will carry on as before despite their destruction of the very free-thinking, scientific fact-based mechanisms – and associated institutions - on which the modern world was built..

This explains why engineers are very seldom today asked to serve on Commissions of Enquiry etc etc. One wonders how such people can trust aeroplanes to stay in the air.

3.7   A Post-Truth Era?

Sir David Attenborough observed : **"We are building our universities and intellectual communities around the ethos of** *(collectivist, group-thinking - Ed)* **tribalism, in-group loyalty, and fervent activism instead of the once-predominant ethos of truth-seeking".** The 'tribalism' and associated activities are observable in the likes of Enviro-NGOs, many of which started life as truly idealistic organisations, but have been since taken over by political interests (witness the internet-accessible resignation letter of ecologist Dr Patrick Moore)

In 2018 Lee McIntyre wrote "Post Truth", describing a world in which feelings trumped facts and realities (ie truth). If he is right, the engine of post-Renaissance progress has surely been stilled, and the general public has given up on the reach for further progress in that it can no longer discern, far less value and respect, truth-oriented science and engineering. In climbing aboard the Sustainability band-wagon, engineers have 'mixed church with state' and sacrificed their very justification as a reliable source of impartially secular knowledge. **Does the conference theme merely reflect our abandoning any need to personally check out conventional wisdom, instead accepting the mainstream media's presumpt-ions as to future "inevitabilities"?** Which we presume to originate in a (all-knowing and all-wise) **"global Technocracy"**, which, however, is nowhere to be found as a single tang-ible organisation with a persuasively-justified belief system. **Are we talking reality here?**

4.0 UNDERLYING REALITIES OF HUMANITY, SOCIETY, TRANSPORT

4.1 On Human drivers

Humans are not immune to nurture, but are strongly influenced by nature's genetic drivers.

Genetic drivers of human behaviour give rise to **fundamental human 'rights'.** There are three **:** (i) to survive and grow, (ii) to use one's mind to openly hold and follow personal opinions and values, and (iii) to "flourish" by realizing oneself and reaching one's full potential including procreation and using all one's resources to better oneself and one's family. The American constitution lists these as the right to life, liberty, and "happiness" (the sense of fulfilment that comes from self-realisation). The social contract for a voluntary (non-dictated) society is that individuals agree to their behavior being governed subject only to government respecting those personal 'rights'. Today's dictatorial society is dis-respectful of those rights.

While there is much verbalizing about human rights today, the reality is that nature-driven individual rights are being steadily withdrawn in favour of artificial rights claimed by special interest group collectives and authoritarian-isation of the state. Witness erosion of the right to choose and efficiently use means such as automobility as an aid to personal betterment, and the right to fulfil one's obligation to family to house it optimally at personally affordable standards, progressively improving those standards as personal circumstances allow.

4.2 On drivers of open-to-flourishing societies

Open societies capable of evolving for survival within changing circumstances have developed over the last thousand years by recognizing and respecting these three fundamental personal drivers. They are the backbone of the 'free, democratic state'. Societies which through their planning do not respect personal WANDAPs to enable all members of society (that means all, including low-income people) to house and better themselves e.g. by efficient translocation to best personal advantage, as personally (not centrally) determined, demotivate their citizens and rigidifiy their societal evolution, e.g. by turning their citizens into slaves to a fixed centrally-dictated ideology and/or religion. This invites their overwhelming by more adaptable and flourishing forces, through lack of free thinking and resilience. A typical consequence is the sacrifice of wealth and survival powers through loss of territory.

If planners set standards and impose regulations people can't comply with, and design cities people can't afford, then they ignore those three fundamental human rights, and may be inviting public reaction of the kind which stormed the Bastille, threw off the British colonial yoke, dismantled the Berlin wall, sparked the "Arab spring", voted for "Brexit", and elected Donald Trump to the American Presidency, inter alia on the grounds that many Americans wanted to maintain American values and ideals – if necessary inside a wall. Mostly, the stated examples were not "free, democratic" societies, but our politicians and enviro-planners might take note of those that have been, including Greece, UK, USA, Venezuela, Italy, etc. etc, now France, potentially Spain and Portugal, and conceivably even Germany.

4.3 Progress or perish

 'It takes all kinds to make a world' including poor and potentially downtrodden families (and societies) which stick together, stay together (and survive). In contrast, those who 'downtread' on the 'underclass' of those having few choices (slaves?), invite such turmoil. Such ancient sayings survive because of the insights they provide. The world evolves, and any society must evolve with it (with individuals able and choosing to use opportunities ever available for mutual flourishing thus contributing to societal prosperity), or allow itself tooverwhelmed by difficulties, to which it then succumbs. Any society 'locked on' to a single Development Plan without open debate on emergent diseconomies invites failure.

Societal Sustainability remains available to any society which values the lives of all its people, their personal freedom to choose, and their right to better themselves as they see fit. If how-ever any society passes control of its fate to central planners locked on to centralised 'group think' ideology from which it can't escape, that control can easily become personified in an all-wise Great Leader (Stalin?) or a UN- (and friends-) funded and controlled global Technocracy – such as dictates the inferences of the conference theme..

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There are always sociopaths and potential Great Leaders seeking control, and with it wealth and power. Few institutions starting with the purest of ideals can survive the assault of clever and charismatic people bearing a new perception or ideology. IPENZ, this Transportation group, and RSNZ are cases in point. Antonio Gramsci advocated that ideologists 'march through the institutions' as a means of driving society to collectivise around their centralising ideology. To him, a strong nation was one steered by a Mussolini, Hitler or Stalin, and milked for the bribing of a hierarchy of supporters dominating 'the poor downtrodden weapons of war' used to then acquire wealth by force. Only in our case, an aspiring Great Leader could be the UN (and more particularly a global aristocracy steering it for personal gain), and the ideology promoting such an end is known as the UN's own 'Sustainable Development'.

4.4 Property + markets as the route to betterment – and flourishing (prosperity)

All life forms – including humans – were built to flourish, not to choose to self-destruct. The engine of civilization is personal motivation to create wealth (as distinct from stealing it – the engine of war). Such creation is enabled by (voluntary!) membership of a tribe or societal group which respects a personal 'right' to own or exchange any 'property' that person has created, enabling (RMA S.5) that person to 'better' himself and family through voluntary thus mutually-beneficial exchange. Our own society is our primary 'free' market; exchange of one's goods for others enables realization of betterment (flourishing). Societal wealth is aggr-egation of wealth owned by individuals. If individual ownership (and control) is not respected by any society, then it does not exist for the benefit of its citizens. Such collectivized societies are unmotivated, thus stagnant, holding slaves in productive service to a consumptive master class appropriating wealth. Societies in which citizens voluntarily cooperate are the polar opposite of such stagnant master-slave societies. Together they comprise the stuff of history.

4.5 Cities exist because …

Cities exist as a currently-propitious means of enabling **personal, family and societal betterment** (i.e. genetically-driven **'flourishing'**). They do not exist for the primary purpose of "saving the planet". However the inevitable environmental effects of human living need to be (affordably!) managed to ensure they do not excessively, detrimentally, and permanently damage the environment in ways which reduce human habitability of cities themselves - or indeed associated global regions. Thus urban planners should not raise 'planet-saving' to be the primary objective of planning except where policies demonstrably also enable flourishing.

Similarly, the efficiency and quality of the commerce by which humans create and distribute wealth is determined by the efficiency and quality of personal and company inter-access-ibility with the full range of urban (and peri-urban) land uses.. In this regard, every personal trip is a trip to better one's life socially, economically or environmentally. **Any restriction on inter-accessibility**, such as occurs from undue congestion or effective preclusion of inter-access, **restricts human flourishing** even to the point of reversing it, as is now happening extensively, especially in the larger New Zealand cities. Yet 'The Face of Transport in New Zealand' reflects ever-reducing and ever-more costly inter-accessibility, and is in no small measure the cause of current economic debilitation, hardship, and rising social discord and severance. Should planning schemes continue taking no account of such consequences?

4.6 Transport planning then and now

Before Post-Modernist attitudes discouraged respect for the engineering contribution, infrastructure was seen as the commonly-beneficial 'overhead' development necessary for enabling all other development to occur. 'Development' was seen as ever-greater efficiency with which material resources were selected and used, rather than as mere consumption of the human environment and creation of waste. Today, its distortion and even denial depend

on a point of view which holds all human effects to be 'detrimental to the environment', ie 'evironment uber alles', with human progress to be suppressed or diverted to modes which ostensibly 'protect the environment' but which in reality do no such thing, but merely act as figleafs behind which planners can create aesthetics-based 'designer cities' without censure.

4.7 Economics 101

'Economics' has been described as essentially the study of housekeeping – including that of cities – ie wise use of resources to 'enable' (RMA S.5) the most efficient means of human betterment. This latter is an increment of wealth and/or wellbeing including – but not limited to – material wealth, which can also be acquired through barter or monetary transactions, social interactions or cultural or environmental experiences (TIEs). All can require efficient inter-accessibility between any pair of land uses if market exchange is to occur. Transport is not merely a tool with which to enforce an urban design; nor can popular modes such as automobility be actively discouraged without restricting the creation of wealth and welfare.

Material betterment or wealth is "created" by/for both parties, each of whom has a vested interest in keeping the cost of his tradeable item – including that of the most appropriate (priced) form of energy and/or transport mode -- to an overall minimum. Any State or Local Government pre-determination of energy form, taxation levels, or travel mode restricts personal options and potentials for cost minimization. Typically such pre-determination has non-financial goals which may recompense the parties in some other (non-financial) way. If not, overall living standards – "liveability" - degrades.   Complex material goods require "capital" and/or "infrastructure" to be used in their creation, which in turn require trained specialist design for efficient (resource-conserving, cost-minimising) manufacture, – the task of dispassionate impartial (values-independent) professional engineers, if 'enabled'.

4.8 Applied Economics (Urban Transport 101)

Economy is an essential aspect of responsible Transport Engineering, no less than for Professional Engineering generally. When professional engineers had 'top table' influence on project selection, as under the old politically-independent National Roads Board funded by road user taxes, economic evaluations were always undertaken on transport projects to independently quantify their direct contributions to public welfare These enabled the Board to recommend project priorities in the queue for financing according to overall economic value delivered, and government to override such recommendations if politically appropriate.

Urban transport as designed by engineers was all about enabling user-efficient inter-access-ibility between <u>all</u> parts of the city and its hinterlands, allowing maximum flexibility of land use and LU development, and minimizing waste of resources including time and energy. That 'enablement' orientation fundamentally differentiates engineering from planning, and is the reason engineering advice is ignored by 'integration'-empowered planners bent on creating designer cities. That is, unless such advice conforms to use of transport as a tool to enforce a land use Plan. For example, Smart Growth planning requires emphasis on re-centralisation (with radial rail transit) or other transit-accessible areas, regardless of freight and service requirements (eg by means of densifying transit corridors with'Transit-oriented Development' (ToD). Such an order of powers seems strange when market-driven land uses change com-paratively quickly, whereas networks of multi-purpose road reserves are mostly permanent.

Requiring the use of costly and inefficient fuels, or deliberately congesting traffic through inadequate road network development, adds costs and frustrates some traffic – ie commerce – off the road, or forces it to use a less convenient/affordable mode, or travel at a less-convenient or less economically-efficient time. Whichever, costs are increased and urban commercial productivity is reduced, resulting in prosperity being reduced, perhaps into negative territory thus compounding debt – and societal weakness.

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4.9 Transport Project Evaluation Today

The last economically-based and functionally-engineered Auckland Regional Council Transport Plan which sought to enable efficient automobility without unduly subsidising public transport was produced in 1974. Then OPEC's artificial price-hikes intervened. Subsequently planners gained control of transport planning, and that 1974 Plan has been progressively stripped of proposed network developments to what it is today, - a non-plan, or even an anti-plan, with so-called roadworks (except for government-organised state highways – for now) comprising conversion of existing multi-purpose roadspace to grossly inefficient bus-lanes and cycleways. Subsequently legislated 'transport demand management' translates as building no more arterial roadspace – the catch-cry is 'there's no room for more roads', even although much of the city is zoned for reconstruction. Resulting congestion is presumed to force use of transit instead, but overseas studies show that, for similar cities, while radial transit patronage increases, patronage of the lateral services rearranged to force-feed radial rail to the CBD often declines faster, resulting in an over-all net <u>loss</u> of patronage.

With planners now firmly in charge, their predilection for 'urban design' overrides organic growth whereby local and personal wandaps result in an efficiently productive layout of contemporary land uses and inter-accessibilities. Instead of fulfilling its function efficiently, transport mode-selection has been usurped from personal choice to be used as a tool for delivering customers to land uses favoured in the designer city. The monopoly empower-ment of idealism under the banner of 'integrated planning' ensures that 'Project Evaluation' is no longer an impartial exercise to assist in project selection and establish priorities, but instead becomes an exercise in justification of the projects preferred by planners, ie which help realise their designer city. Thus, procedurally-sound transport planning based on scient-ifically-established facts (more recently in service of the 1984 bankruptcy-driven 'more market' philosophy which befat the RMA) has been totally replaced by arts-side idealism, social beliefs. and aspirations for the political control of society-at-large.

Today's decisions are made on the basis of a "Business Case" (BC) designed to justify a single project proposal, often prepared after Council staff have decided on the project. Council documents emphasise and show designs for future public transport services and networks, and both Council announcements and a compliant media regularly promote their implementation, but general purpose roading projects are almost non-existent (other than for conversion to sole-purpose bus-lanes or cycleways**). Almost no consider-ation is given in Council planning documents to main roads and/or development of their network. But in most cases that network carries that 95% of motorized vehicle-aided person movements which occur in privately-owned vehicles and pay almost 100% of road user taxes, yet is often severely congested.** Instead of being applied to road construction as intended at the time road taxes were introduced, such taxes are today largely diverted to pay for, and subsidise the operation of, that 5% of daily vehicle-dependent traffic which uses public transport, together with special new paths for walking and cycling.

'Multi-Criteria Analysis' (MCA) is often used as a replacement for financial evaluation. MCA depends entirely on the personal opinion-based selection and weighting of criteria, and can deliver any answer wanted. It is not an impartial tool for project evaluation; rather, it is a tool used by planners to achieve their own ends – which do not always reflect those of the ratepayers paying their way. While economic evaluation can not and does not include for (undue) environmental impacts, the quantification of which is subjective in itself, it at least lays out the human interest side of the equation, leaving it to accountable/recallable politicians to wrangle with pandering to, mitigating, or over-riding some social and environmental effects

Another ad-hoc method of project justification is that of the **'Business Cas**e' (BC), invariably paid for by the proponent. With only the preferred option of an isolated project to evaluate, the author has yet to sight a BC which does not justify the proponent's project, regardless of objective. BCs typically preclude any impartial consideration of the variety of ways of addressing the inter-access deficiency supposedly addressed, including alternative ideologies or travel modes such as privately-owned vehicles. None of the BCs sighted by this author addresses the diseconomies of cross-subsidisation. Thus the BC document becomes a means of promotion, inviting manipulation of input data. Recent Auckland examples include **:**

- **Nelson Street cycleway**, for which forecast usage was increased fourfold over the real expectation, helping to justify an otherwise unjustifiable project

- **Central Rail Link** for which Treasury's Infrastructure Dept's review of Council's Business Case considered that benefits were in reality about 10% of those claimed,

- **Waterview tunnels**, which could have been built as a surface route including an interchange accessing Rosebank and Unitec for about 1/6 of the cost of the tunnels. For little more than the cost of the tunnels, a surface route could have been extended through the Pt Chevalier interchange, across Pt Chevalier isthmus and Meola reef (on stilts) to a bridge landing west of Chelsea Sugar refinery, then joining into (4-lane, clearwayed) Glenfield Road (after passing under Highbury shops with a half-diamond interchange with Mokoia-Onewa Rds), all as per the 1974 Regional Transport Plan designed to 'enable' efficient inter-accessibility. A six-lane bridge could have attracted one third of traffic off SH1, resolving congestion for decades while adding resilience

- **Victoria Park tunnels**; a comparable effect could have been achieved by widening the existing viaducts by one lane in each direction at 1/10 the cost of the tunnels,

- **The East-West link**, grossly over-priced at $2 billion for a surface route partly using existing streets (instead of above the NIMTR), inviting cancellation by a government sharing Council planners' reference for public transportisation over automobility.

- **Kirkbride Road interchange**, which was undergrounded (rather than "balanced" between cut and fill) at an assessed "on cost" of 50% so that children could see their school as they approached from the west (over the depressed motorway)

- **The East Tamaki-SH1 connector** avoided the obvious and long-planned direct con-nection into the SH1 Otahuhu interchange in favour of a much longer route into a new interchange, ostensibly because any bridge shadow would affect Tamaki River snails

- **The Manuka East-West beltway** between Maraetai and the airport as recommended in the 1975 South Auckland Transport Study and provided for in Mangere subdivision-al patterns, thus emulating the Greenlane-St Lukes Rd corridor, has been frustrated, eg by lack of direct East Tamaki - SH1 connection into the Otahuhu interchange. The MCA applied major significance to the casting of bridge shadow on riverbed snails

4.10 The Dancing Kite Analogy

The text above represents the reality side of human nature. But 'man does not live by bread alone'. There must be a place for idealism, and that place can only be determined, in a free democratic society, by open public negotiation (ie in parliamentary debate). These days of ovwerwhelming bureaucratisation, that also requires a structural balancing of idealism-oriented bureaucracies with those representing reality. As in kite-flying, the kite can only dance in the wind and inspire the realists into dancing with it if tethered with creative tension to a well-grounded realist playing the string. Cut the string and the kite 'crashes and burns'.

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5.0 WRONG TRANSPORT PRESUMPTIONS & DEMONISATIONS

Paragraphs under this head in the primary document traverse four pages of such incorrect presumptions about and demonisations of almost anything to do with automobility. A further eight pages of appendix address errors in the presumptions, leaving no grounds for demon-isation other than a collective planner dislike of auto-mobility being visible, noisy, dangerous and their motion nearby being disruptive of the peace and quiet sought by planners in cities. In short, they are perceived by planners as disrupting 'their city's' urban aesthetic.

Automobility enables freedom of choice, always a dangerous thing when one is attempting to control and (re-) shape both functioning and fabric of urban development to achieve a magn-ificent, 'integrated', globally competitive and attractive work of art. Public transport can help deliver some of these things; moreover there is less of it to be obtrusive,there are no parking needs, and some of it can be hidden underground. Finally, the historic road planning, design and provision industry influences urban development away from the controlled design sought Better therefore to <u>presume</u> and assert its function can be replicated more constructively (designer city-wise) by 'less objectionable' (more controllable) transit, even if 20 - 80 times as many destinations can be accessed in the same door-to-door travel time by car as transit

Some of the above will be well-known to Transport Engineers, but the general public has been exposed to such a barrage of glossified misinformation, that many now actually believe that the favoured modes can enable the production of wealth as efficiently as 'selfish' auto-mobiles, and that their eschewing auto-mobility and insistently supporting public transport-isation can actually help 'save the planet' – or at least signal virtue. (Those checking the right- or wrong-fulness of such assertions can find references in the paper's long version.)

On the basis of such misguided popular support, planners believe themselves 'justified' in not building or even planning any more general-purpose road-space – and allocating existing road-space (including kerb-side parking) to other modes. Road-user taxes are then diverted to pay the capital cost of new transit installations, then subsidise operating costs (currently by almost 50%), on the basis that such will "fix congestion". Instead, congestion worsens.

6.0 SUMMARY AND CONCLUSION

6.1 The theme in question

There can be no doubt that the theme as widely perceived is dictated by forces well beyond rational thought and realities such as the absence of acceptable and affordable sources for all the extra power required. **How can we afford public transport which is grossly inadequate to accommodate peak demand, yet is grossly anti-economic when it must run in off-peak hours?**   And how is our society going to survive the drop in productivity associated with less efficient urban inter-accessibility? The public is awakening to the reality and potential consequences of costs rising faster than incomes; no other society, far less civilisation, has survived the destruction of confidence in our fiat currency that prescient people expect. **Unless our current course is changed, concern for our environment will become irrelevant in the face of the unrealities of the local, national and civilizational socio-economies we are creating for our children and grandchildren**

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6.2 To flourish or not to flourish – that is the question

Throughout our time on earth, we have striven for survival, and to build prosperous societies within which people can 'flourish'. **This striving is built into our genes and our very nature. It can't be removed from human nature without destroying that which makes us human** The very idea that our own society can choose to anti-flourish, to sacrifice our flourishing in favour of other life forms, is ultimately anathema to us. **Yet that is the suicidal reality prevailing in the world today, as represented by 'Smart (sic) Growth' Planning.**

There can be no question that 'flourishing' is the answer to the question, and that **environmental concerns are luxuries affordable only when our 'incomes' exceed a level beyond which survival with at least a minimal level of 'cushion' or comfort is as good as guaranteed.**   Some who have explored this issue consider this personal annual income to be of the order of US$5000 annually.   If there are to be any global goals, this is surely the first level of such goals. A second level would be to exercise such discipline as to ensure productivity is always positive, i.e. 'growth' is occurring (preferably using materials which are ever-less environmentally 'detrimental').   Third, that only a politically 'appropriate' (ie affordable) portion of profits is devoted to 'cleaning up' the non-self-healing consequences of human existence. All life-forms live off their environment by changing it; so **would we really prefer the planet to change without us than to change while we inhabit it?**

6.3 The structural changes needed.

An ancient Chinese observation is that **alternative forces ('Yin and Yang') are involved in the eternal (re-)balancing of all things which are ever disturbed by evolutionary forces** This is as applicable to human society as it is to anything else. **Idealism is an essential component of human nature,** without which we would not be human. But in the individual, such idealism and ambitions must be constrained by our limited capabilities and resources, and the choices we must make to keep the bank manager and the police at bay. **This latter counter-balancing force is realism. The role society allocates to specialist Professional Engineering advisers is that of a clear, unequivocal (realistic) accounting in the constraint of otherwise-unconstrained idealism** and the 'crash and burn' that can follow

Complex societies require inputs from all corners of society to be evaluated by a governing 'brain' – government itself. Properly-functioning democratic government absolutely requires to be advised impartially and 'realistically' if it is to effectively steer the ship of state between the rocks which always threaten wayward societies. While idealism is also an essential consideration, an idealism-based 'Ministry for Everything" rigidifies the steering, ensuring a 'crash and burn' scenario unless balanced by a Ministry for Reality staffed by infrastructural engineers, urban economists, and project cost accountants so evidently missing today.

The general public and lay politicians cannot be expected to understand what is missing. Only Professional Engineers can understand how essential they are at the top table together with other advisers in political decision-making. We should stop attempting to be what we are not, and seek to be what we are – specialist advisers, not jacks of all trades (and masters of nothing) - with an absolutely essential role to play. We should then set about rectifying the currently suicidal course of society, by ensuring our government is alert to the **rocks and is capable of steering between them – with our advice.**

Proper Transport planning designed to enable human flourishing with efficient, affordable and flexible inter-accessibility between all prospective activity-generating bits of urban land would be a good place to start. Effects on the environment are a natural consequence of the existence of any life form, including humans. The trick is to ensure those effects are not unduly detrimental, at least for more than a temporary interval while a 'fix' is being devised. The baby's 'detrimental effects' should be prevented with a nappy, rather than by throwing the baby out with the bathwater. Idealists react with horror and throw out the bathwater; Professional Engineers design nappies.

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Note that commercial and industrial land use typically changes at ten to fifty year intervals and (especially in the case of residential use) sometimes 100-year cycles and more. However, such time-frames are small in comparison with the longevity of most parts of an arterial road network; many European urban roads have existed for 2000 years or more. It is surely inappropriate for (avoidance of) arterial road network provision to be used as a tool to promote a particular land use (and public transport system) design which has a time-frame of only twenty to fifty years. Idealists are good at ideals, less so at rational reality.

6.4 How to promote those changes

Our society, like all other Western societies, has responded to special environmental interests acting at a global level the way dogs obey a dog whistle. We have been beguiled into becom-ing obedient to forces beyond our direct control. The first step is to recognise and understand that, while a dog whistle has its uses, we do not serve our own societal interests by signing international agreements and blindly following instructions. After all, 'they' have an interest in bashing rocks. Signaling virtue to rock-bashers is a quick route to being bashed by a rock.

Restoring relevance for Professional Engineering skills has to be the primary goal. Society needs these skills; they can restore productivity. To effect this, we need (inter alia) to halve the funding of enviro-planning and use freed-up capital to restore the NRB, MWD and City Engineers' Departments, then ensure government in its various guises (and that includes strong bureaucracies which treat politicians as their rubber stamps) is made aware of the technologies available in pursuing the goal of societal prosperity through the flourishing of all members of our society – not just the rich.

Our very own society has adopted our current course and we, as professional Engineers, have been negligent in ensuring our special contribution effectively reaches the top table of government**. Only we can rectify the waywardness of chasing 'sustainability' mirages.**

When there is only one (idealism) game in town, it is too much to expect individual engineers to sacrifice their careers and reputations by openly opposing that game. Each of us has a family to feed; there is no future in sacrificing that feeding ability. Rather, **our institutions can make representations on our behalf – at our behest** – with minimal danger of making the current situation worse; it is already 'worse' in the sense of over-indebtedness.

The economy is faltering; typically changes in societal direction can only occur when the public is driven to recognise the need for change. **Engineers should first arm ourselves with recognition of our failings and an understanding of the lack of (re-)balancing capability in our present ship of state.** Engineers should then devise a solution to current and impending problems and have it ready – and politicians primed – for implementation when the public casts around for such a solution. **Indications, both locally and globally, are that such a situation is imminent, and our response is urgent.**

One facet of such a solution is to **re-establish the open-debate 'balancing mechanism' that once obtained between the forces 'enabling' interaction between land use and Transport. That means restoring a City Engineer's Department with direct respons-ibility for transport, while leaving Planners to 'enable' land-use.** A city can be a natural living and optimally-productive organism which is a solver of problems and a celebration of life itself -- if it exists as a response to the wandaps of its citizens. But if aesthetics-driven architect-planners continue to enjoy a monopoly of power, they will continue to 'create' a simple formula-driven (Norfolk pine-like) functional tree presented at enormous expense as a collection of tinsel-wrapped wedding cakes, claiming all the while to be saving the planet. In that case, our society and its economy will get what is being sold to us – a pup.

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Finally, if Engineering New Zealand is an institution for specialist engineers, so are its sub-Groups. For most engineers Planners are as welcome as observers as Engineers are welcome at NZPI meetings. But are engineers fish or foul? Or some combination? Why (for example) should Auckland Council seek advice on the planning of public transport from a PhD in theatrics? What have lawyers to offer this conference, as distinct from a select committee? It nature-based facts, human realities, and financial affordabilities are to bear on public decision-making, engineers must remain true to their (natural fact-based and values-impartial) cause and not allow themselves to be distracted with self-imposed responsibilities for the likes of the oxymoronic 'Sustainable Development' or development aesthetics

7.0 REFERENCES

This whole paper represents a perspective that will be immediately rejected by many Transport Planners today, regardless of references. After all, 'All societies depend on propaganda for control', 'There are none so blind as will not see', and 'Nobody can be sold a reality when his lunch, income, reputation and career depends on denying that reality'.

The paper is sourced in impartial logic and rationality; strange bedfellows to many at this conference. The original 50-page paper is supported by over 20 pages of references to engineering and urban economics sources, many of which date back over 50 years to the heyday of Transport Planning for 'wandap' enablement. None have been referenced in any enviro-planning document the author has viewed; where referenced at all, such documents do not name authors or their qualifications, and refer to sources paid for by the planning organisation or similar vested-interest groups. The paper's references can be accessed on the (impending) website < _**REALLY**_smartgrowth.com >, together with a similar paper on economic land development and use for economic enablement of affordable housing. This paper is long enough as it is, so must stand or fall on the logic of the argument presented, and doubtless the prejudices and commitments of many of those who read this far.

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