

We Cannot Solve Modern Transport Challenges with Outdated Approaches

A Call for a Paradigm Shift in Transport Planning in Slovenia

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Over the past 30 years, Slovenia has built numerous new roads to facilitate the country's development and make car travel faster, more convenient, and safer. While road safety on long-distance routes has significantly improved, paradoxically, our quality of life has deteriorated: we spend more time on roads, travel longer distances, and often find ourselves stuck in traffic. Equally paradoxical is that workplaces, schools, shops, and other daily destinations are becoming increasingly difficult to access for most citizens. Slovenia stands at a crossroads: will we continue with one-sided investments in the road network, which are proven to exacerbate societal issues, or will we opt for a paradigm shift in transport planning that enables a high quality of life for citizens, with or despite traffic congestion, as successfully done by many other countries?

How Are Transport Planning and Policies Changing?

Transport planning and related policies in Western cities and countries have undergone a radical transformation in recent decades, marked by a paradigm shift extensively documented in the scientific literature. American physicist and philosopher *Thomas Kuhn* introduced the concept of scientific paradigm shifts, positing that scientific revolutions occur when researchers encounter questions they cannot adequately address within the prevailing paradigm. This prompts them to doubt accepted norms and methods, seeking new frameworks for inquiry and solutions.¹

British Professor of Transport and Sustainable Development *Peter Jones* studied urban areas in developed Western countries over the past sixty years. He identified three phases in the evolution from the old to the new paradigm in transport policy.² The development of regional and national transport policies mirrors these transitions, which can also be recognized in Slovenia. These three phases are detailed below.

Phase 1: Following the Growth of Car Traffic (Old Paradigm)

The first phase is linked to the rapid increase in car ownership and usage, accompanied by the construction of high-capacity roads and extensive parking facilities to meet the growing demand for car mobility. This phase has led to intensive suburban development, further exacerbating these processes. Transport planning during this phase is dominated by the "predict and provide" approach, which relies on past transport and socio-economic trends to forecast and accommodate future transport needs.

The British Chartered Institution of Highways & Transportation (*CIHT*) warns that this planning approach

reinforces existing conditions and problems in transport and spatial systems. Due to outdated methods of evaluation and measure selection, it acts as a barrier to more effective transport planning.³ In Slovenia, this approach predominates in transport planning and policymaking at all levels.

Phase 2: Shifting to Alternative Modes of Transport (Start of the New Paradigm Transition)

One of the founders of the sustainable mobility concept, British Emeritus Professor of Transport Policy *Phil Goodwin*, labelled this phase as the "new realism." This term underscores research findings that countries and cities face a dead-end because building roads alone cannot resolve traffic congestion.⁴ It has been proven that expanding or constructing roads, especially in urban areas or busy long-distance corridors, induces additional car trips that otherwise would not occur. These additional trips, often unforeseen and unplanned, eventually result in renewed congestion, negating the intended benefits.⁵

Canadian transport planning researcher *Todd Litman* emphasizes that the road-building paradigm focuses on two goals: maximizing travel speed (reducing travel times) and accommodating forecasted traffic volumes. Even if these goals were achieved in the long term, faster travel and higher traffic volumes do not contribute to broader societal objectives such as economic growth, environmental sustainability, or social equity.⁶ American Professor of Transport Policy *Susan Handy* highlights that societal goals often neglect the fact that approximately one-third of residents in developed countries cannot or should not drive.⁷

In this phase, the "predict and provide" approach gradually gives way to the "decide and provide" approach. This new paradigm defines a desired future and ensures the conditions necessary to achieve it. It

enables the effective addressing of key societal challenges such as climate change, the energy crisis, transport poverty, and public health issues stemming from sedentary lifestyles. The approach emphasizes integrated transport and spatial planning, offering a framework for reshaping transport mode hierarchies—reducing car usage while enhancing public transport and active travel modes. Central to this approach is demand management through measures such as road usage pricing, parking fees, spatial and housing policies that promote accessibility and reduce urban sprawl, and improved alternatives to car travel.

Phase 3: Ensuring Accessibility, Not Mobility (New Paradigm)

The third phase shifts focus from addressing transport and mobility as central issues to prioritizing quality of life and ensuring access to essential activities for residents. In this planning stage, transport is no longer the core subject but a means to achieve broader objectives. The concept of accessibility, largely defined by Californian professors *Robert Cervero*⁸ and *Susan Handy*, centres on the ability of people to reach their destinations and access the services they need. Handy notes that focusing solely on mobility, as has been the norm for decades, pushes us toward a single solution: increasing mobility, typically by building high-capacity roads. In contrast, enhancing accessibility can be achieved through high-density urban planning, efficient public transport, quality pedestrian and cycling infrastructure, and digital access to services. These solutions do not necessarily require longer journeys on increasingly congested roads.⁹

The COVID-19 pandemic underscored the importance of spatial proximity and digital connectivity for accessing goods and services. British Professor of Future Mobility *Glenn Lyons* introduced the "triple access" concept, which adds digital connectivity as an equivalent component alongside physical mobility and spatial accessibility in transport planning. This concept holds significant potential for *reducing* the need for travel.¹⁰

Why Do We Still Rely on Outdated Concepts?

Many studies have explored the persistence of the old transport planning paradigm over more modern approaches. Norwegian researcher *Aud Tennøy* identifies several reasons: lack of confidence in the effectiveness of the new paradigm, insufficient evidence supporting its outcomes, or the inability to predict its impact. She also highlights the influence of power structures, noting that in contested paradigms, the one supported by the most influential stakeholders is often perceived as "correct." For example, if a cycling organization proposes a new paradigm based on

successful foreign practices but a state infrastructure agency opposes it, the old paradigm is likely to prevail due to power imbalances.¹¹

Another significant reason for this situation is outdated yet prevailing beliefs within professional fields related to transport planning. Handy points out that in the United States, transport planning is dominated by engineers whose rational, quantitative approach is not inherently tied to road expansion. However, because the field of traffic engineering has evolved over nearly a century to address the growth of automobile usage, its focus remains on meeting increasing demand for car travel. Handy attributes the slow paradigm shift to entrenched beliefs that professionals and decision-makers adhere to throughout their careers. These beliefs are difficult to change, even when confronted with direct empirical evidence of their shortcomings.⁷ A striking example is the persistent denial of induced traffic on new road infrastructure and the continued reliance on similar solutions to solve congestion.

American Professor of Civil Engineering *Wes Marshall*, in his book on traffic safety, highlights discrepancies between what traffic engineers do and what research shows about traffic safety. He critiques numerous dogmas (e.g., simultaneous emphasis on vehicle speed, flow, and safety) that lend an appearance of scientific objectivity to traffic engineering but diverge from broader societal goals.¹²

British Professor of Transport Policy *Tom Rye* observes that resistance to change often comes from professionals and stakeholders who benefit directly from the old paradigm, particularly through involvement in large infrastructure projects. Decision-makers frequently reject the new paradigm because it can be politically challenging, requiring changes in user habits, restricting or charging access to previously free roads or parking, and other unpopular measures.¹³

Conclusion

Elements of the new planning paradigm are already present in Slovenia, particularly in larger urban centres, but they are often overshadowed by decisions rooted in the old paradigm. At the national level, the old paradigm still dominates overwhelmingly. This situation is not unique to Slovenia; the clash of paradigms is present in most developed countries. The difference lies in the experience, education, and awareness of our professionals and decision-makers. In Western countries, the debate about paradigm shifts has been ongoing for much longer, meaning the current level of discourse on transport policy decisions in Slovenia resembles that of more developed countries over 30 years ago.

In the last three decades, transport planning in Slovenia has largely been led by traffic engineering professionals. Their focus during this time has been on the construction and modernization of the road network and, more recently, on addressing the rapid growth of motorization and transit traffic. This has strengthened the old planning paradigm while neglecting to develop knowledge, values, and methods centred on accessibility and the planning of public transport, cycling, and walking—or such knowledge has been lost altogether. Other disciplines involved in planning and constructing the highway network, such as urban planners, spatial planners, and environmental assessment professionals, have adopted principles of the old paradigm and often reject new concepts, doubting the potential of demand management, restrictions on car usage, and alternatives like public transport.

We face a difficult moment in deciding the future priorities for transport development in Slovenia. A large

portion of the profession and decision-makers operate based on the principles and values of the old paradigm, often driven by direct financial interests tied to large infrastructure projects. Transitioning from the old to the new paradigm will not be easy or quick. However, if it really wants to deal with its congestion and other transport problems then Slovenia, too, must embark on this evolutionary path, which will likely involve the three phases described earlier.

The Transformative Transport Planning Group is committed to promoting an early shift in the planning paradigm. Much can be learned through international collaboration and experience-sharing with comparable countries (especially in the Alpine region) that have undergone similar developmental stages and challenges. Access to international knowledge and experience has never been easier, and we must take advantage of this opportunity. By doing so, we can ensure a high quality of life with good access to goods and services, with or without traffic congestion.

Sources

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