



WP3 Simulation based training package

Module Title: Module 2: Improving alternative transportation - encouraging sustainable practices

Introduction to the Module

This module is part of the ACT4DYS Simulation-Based Training Package (WP3), developed to empower youth workers and trainers to become effective guides for disability-inclusive urban development.

Module 2 (*Improving Alternative Transportation: Encouraging Sustainable Practices*) builds directly on the foundational concepts introduced in Module 1 and focuses on one of the most tangible barriers young persons with disabilities face in urban life: getting from A to B. Transport is not a neutral or technical matter. It determines whether a young person can reach school, a job, a health appointment, or simply participate in their community. When transport systems fail to include everyone, exclusion follows.

Who is this module for?

This module is designed for youth workers, youth trainers, and anyone supporting young people's access to urban opportunities. It is equally relevant for those working in advocacy, policy, or community planning. No specialist transport knowledge is needed — the module is built for practitioners who want to understand the system well enough to challenge it and support young people within it.

What will you learn?

By the end of this module, you will be able to:

- Explain the benefits, challenges, and potential impacts of different transportation systems;
- Analyse case studies and examples of sustainable transport initiatives and inclusive design practices;
- Describe how young people, including young persons with disabilities, can be meaningfully involved in the design and implementation of transport solutions;
- Apply the Avoid–Shift–Improve (A-S-I) framework to guide decisions that reduce unnecessary travel, encourage sustainable modes, and improve transport technologies;



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- Recognise issues of equity, accessibility, and inclusion throughout the transport planning process;
- Demonstrate leadership, teamwork, and communication skills in a collaborative scenario;
- Assess the real-world challenges of implementing sustainable transport solutions.

How is this module structured?

The module is organised into four interconnected sections:

- Theoretical Knowledge — core concepts including sustainable transport principles, the Avoid–Shift–Improve framework, the 8 principles for better streets and cities, and the international and EU policy context;
- Practical Knowledge & Insights — lived experiences of young persons with disabilities navigating transport systems, real-world case studies of inclusive and sustainable transport initiatives, and the role of youth workers as advocates and facilitators;
- Simulation Scenario — a collaborative, role-based challenge in which participants analyse a transport system, identify accessibility and sustainability gaps, and propose concrete improvements;
- Resources — a glossary, bibliography, 4 activity sheets, evaluation rubric, trainer script, and links to further reading, podcasts, and the ACT4DYS e-portfolio.

This module in the wider training package

This module is the second of four in the ACT4DYS Training Package. It follows Module 1 (Understanding the Urban Environment: Implementing Universal Design) and connects forward to Module 3 (Creating Youth-Friendly Public Spaces) and Module 4 (the Urban Assessment Tool). Together, the four modules offer youth workers a comprehensive and practical toolkit for disability-inclusive urban development. As with all modules in the package, materials have been reviewed by the European Disability Forum (EDF) — the organisation that represents persons with disabilities at European level — to ensure they meet inclusion and accessibility standards aligned with Universal Design for Learning and WCAG 2.2.

Module developed by SRC.

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Module 2 - THEORETICAL KNOWLEDGE

The concept of sustainable transport emerged in the late 1980s alongside the global sustainability agenda following the [Brundtland Commission's Report](#). At the time, many countries planned towns around private cars using a “predict and provide” approach, which assumed growing car use (Curtis, 2025). This model was increasingly challenged for causing congestion, inequality, and environmental harm, with calls for transport systems that support wider social and environmental goals (Curtis, 2025). Research into sustainable design highlighted how planning shapes everyday behaviour and long-term impacts (Bhamra and Hernandez, 2021), recognising that transport influences access to jobs, services, and social opportunities, as well as resource use. Car-dependent systems often hit those in vulnerable situations the hardest: in 2019, 93% of road traffic deaths occurred in low- and middle-income countries, and car-focused infrastructure can divide communities. In cities, poorer groups are frequently pushed into areas with higher air pollution and fewer healthy living opportunities (Nazelle and Cowell, 2024).

The sections below cover:

- sustainable transport design principles,
- the Avoid–Shift–Improve (A-S-I) model,
- key concepts including green engineering, low-impact development, and the circular economy,
- discussions on systems thinking in sustainable transport and behaviour change & active mobility.

Sustainable Transport Design Principles

Access focuses on enabling people to reach essential destinations efficiently, supported by a range of transport options and compact, well-designed communities that reduce the need for unnecessary travel.



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Integrated planning links transport and land use to limit urban sprawl, support low-impact travel, and guide coordinated decision-making.

Equity means transport systems must be inclusive and serve all people, particularly children, older adults, persons with disabilities, and those in rural or underserved areas.

Health and safety are addressed by creating transport environments that minimise risk and support wellbeing, including safer streets, cleaner air, and opportunities for walking and cycling.

Environmental protection focuses on cutting pollution, conserving energy, and limiting damage to ecosystems, helping meet present needs without compromising the future.

Finally, **economic viability** ensures that transport systems reflect their full social, environmental, and financial costs. Fair pricing, innovation, and investment in clean technologies, enhanced public and shared transport, and active travel infrastructure help reduce harm while supporting sustainable growth and employment. (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2023; OECD, 1996)

Avoid, Shift, Improve (A-S-I)

This model offers a better way to think about transport than the traditional car-focused approach, which just builds more roads to meet demand, ultimately leading to a vicious cycle of more traffic, more pollution, and fewer travel choices (Benham, 2015).

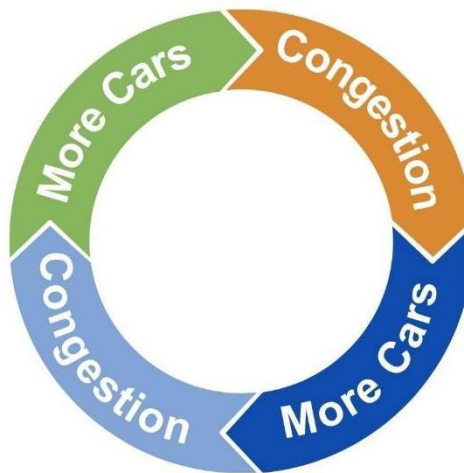


Figure adapted from: Behnam (2015) | Alternative text: Arrows with the text 'more cars' and 'congestion'.

The ASI model aims to :

- Avoid unnecessary trips or long travel distances.
- Shift to more sustainable travel options.
- Improve transport systems and technologies.(UNESCAP Transport Division, 2015; Zero Together, 2025)

'Avoid' is about reducing how often and how far people need to travel. By planning towns and cities better, with homes, jobs, schools, shops, and services all close together. The "15-minute city" is one example, where everything essential is within a short walk or cycle. Improving direct walking and cycling routes, removing barriers (like walls or gates), and making streets safer and more attractive helps people choose not to drive (Zero Together, 2025).

'Shift' involves switching from car use to more sustainable travel options like walking, cycling, or public transport (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2016). Public transport, though it still produces some emissions, is more efficient per passenger than cars.

'Improve' focuses on making vehicles and transport systems cleaner and more efficient. That means using lower-emission or electric vehicles, improving public



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transport operations, and upgrading fuels and technology. It also includes things like better traffic management, emissions standards, and making public transport more reliable and appealing (Zero Together, 2025).

Key Concepts

- **Green engineering** focuses on using renewable energy, such as solar or wind, for vehicles and public transport, and choosing eco-friendly construction materials.
- **Low-impact development** improves transport corridors by adding green spaces, supporting biodiversity, managing stormwater, and making infrastructure more resilient to extreme weather.
- **Circular economy** approaches ensure materials are reused, repaired, recycled, or recovered throughout the transport system's lifecycle, reducing waste and keeping resources in use for longer.

Systems Thinking in Sustainable Transport

Systems thinking is a way of understanding complex problems by looking at how different parts of a system interact. Urban transport is just one part of a larger “system of systems” that includes infrastructure, vehicles, operations, users, policies, and technology. Roads, bridges, public transport, and even informal settlements form the physical backbone, while vehicles range from buses and trams to bicycles and shared minivans. Operations such as traffic management and scheduling, alongside the people who use the system, including low-income or marginalised communities, are equally important. Government policies and regulations, as well as technologies like intelligent transport systems, shape how efficiently and sustainably the system functions, especially when informal transport is integrated into planning (Vemuri, 2023).

Applying systems thinking in transport is challenging because changes to one part of the system can affect others in unexpected ways. Simple cause-and-effect approaches often fail, and research shows that even highly educated people struggle to understand complex systems, including feedback loops, time delays, and



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interdependencies (Voulvoulis, et al., 2022). Everyday routines, social structures, and cultural habits often lock people into unsustainable patterns, which cannot be changed by individuals alone. Systems thinking encourages looking at the big picture, integrating multiple perspectives, and challenging assumptions, enabling transport solutions that are more resilient, equitable, and sustainable, while supporting both behavioural change and institutional reform (Voulvoulis, et al., 2022).

Behaviour Change & Active Mobility

Changing the way people travel, particularly encouraging walking, cycling, or using public transport, involves more than simply offering alternatives to driving. Mobility choices are shaped by many factors, including habits, social norms, beliefs, motivations, skills, and even stress levels. Behaviour change theories, such as the Theory of Planned Behaviour (Ajzen, 1985) and the Norm Activation Model (Schwartz, 1977), help explain how attitudes, perceived social pressure, and personal norms influence travel decisions (Mosca, et al., 2024). People often act in ways that meet immediate goals, like reaching a destination quickly, rather than long-term sustainability goals, so interventions must consider these practical and psychological drivers. Behaviourally informed interventions, or “nudges,” can gently guide people towards active and sustainable modes without restricting choice, for example by improving walking and cycling routes, providing personalised travel information, or highlighting the benefits of public transport. (Bissel, et al., 2025; EIT Urban Mobility, 2025) Understanding these social, cognitive, and emotional factors is key to designing mobility systems that make active travel easier, safer, and more attractive.

Practical Knowledge & Insights:

1. Understanding the Needs of Young Persons with Disabilities

- The ability to travel independently underpins access to education, employment, social relationships and wellbeing, yet young persons with disabilities continue to face significant and often overlooked barriers within urban transport systems. Inconsistent accessibility across vehicles and



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stations, broken lifts, limited space for mobility aids and the mixed nature of transport fleets can render entire routes inaccessible (Savanta, 2025). As a result, journeys that appear straightforward on a map often require extensive planning, contingency arrangements and, in some cases, advance booking of support services. This lack of reliability restricts spontaneity, limits opportunities for social engagement and can contribute to isolation and reduced confidence (Savanta, 2025).

2. Examples and case studies of successful disability-inclusive urban projects

- Transport for Ireland (TFI), in partnership with As I Am, Ireland's national autism charity, has developed the *Prepare Me... As I Am... for Public Transport* campaign as a model of inclusive transport practice. The initiative supports autistic people to travel more confidently and independently by providing clear, accessible and sensory-aware resources, including visual guides, activity packs and step-by-step videos that build familiarity and reduce anxiety. By addressing the sensory and social challenges many autistic people experience on public transport, and by working closely with the autistic community to shape and refine resources, the campaign demonstrates how transport providers can improve accessibility. Learn more by visiting this [website](#) about the initiative or visit the Act4Dys ePortfolio to find out more.
- Łódzka Kolej Aglomeracyjna (LKA), the regional railway operator in Łódź, Poland, has implemented a comprehensive accessibility programme to ensure inclusive rail travel for passengers with disabilities. Since 2014, LKA has introduced level-access boarding, wheelchair lifts, wide doors, induction loops, Braille and large-print signage, and online sign language interpretation, while making its website and ticketing system WCAG-compliant. The operator also goes beyond EU requirements by removing the 48-hour advance notice for assistance, provides annual accessibility training for all staff, and collaborates closely with passengers with disabilities and national stakeholders such as the Polish Rehabilitation Fund (PFRON) to shape



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services and national guidelines. Learn more about this project by visiting the [website](#).

- The Independent Travel Support (ITS) service, part of Transport for Ireland (TFI), helps adults with disabilities gain the skills and confidence to travel independently on public transport. Launched over 15 years ago in Dublin and now operating in Cork, Galway, Limerick, and Waterford, ITS provides one-to-one support with a trained assistant who accompanies users on journeys until they can travel alone. The service supports passengers with a range of needs, including intellectual, sensory, mobility challenges, and autism, across all TFI modes such as Dublin Bus, Luas, DART, Irish Rail, and Local Link. By offering personalised route planning, live journey practice, and confidence-building free of charge, ITS exemplifies a practical, empowering approach to accessible and inclusive public transport. Learn more by visiting the [website](#).
- James Casserly, a disability activist from Lucan, County Dublin, runs Jimbo's Accessible Adventures, a social media initiative advocating for improved accessibility across Ireland. Using his lived experience as a wheelchair user with cerebral palsy and juvenile arthritis, James evaluates public transport, shops, cafés, and restaurants for accessibility, sharing his findings with over ten thousand followers. He actively collaborates with transport providers, including Dublin Bus and Irish Rail, offering insights and reports to inform accessibility improvements. Through his activism, travel testing, and public engagement. Read more about James in this [article](#).

3. Role of youth workers and other stakeholders

- For youth workers, it is important to recognise how these barriers intersect with wider urban development goals around sustainability and alternative transport. Sustainable travel options promoted in cities, such as public transport, cycling and walking, are not always accessible to young persons with disabilities inadvertently pushing them towards less sustainable or more restrictive forms of travel. Inclusive urban development therefore requires transport systems that are accessible by design, consistent in delivery and supported by clear, accurate information (Savanta, 2025). Youth workers can



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play a key role by advocating for accessible and sustainable transport, supporting young people to navigate existing systems, and amplifying young persons with disabilities lived experiences within local planning and policy discussions.

4. Strategies for Sustainable and Inclusive Urban Practices

- Youth workers can play a key role in promoting sustainable and inclusive urban transport by actively involving young people with disabilities in planning and decision-making, advocating for universal design principles in local policies, and supporting training on inclusive practices. They can help monitor and evaluate accessibility through audits and feedback, while encouraging systems thinking to understand how transport, social routines, and environmental impacts interact. Practical strategies include promoting low-carbon options, green infrastructure, and circular economy approaches, ensuring that transport networks are both environmentally sustainable and fully accessible to all users.

Connection to the Simulation Scenario:

In this scenario, participants apply the module's theoretical knowledge by analysing local transport challenges through the lens of sustainable transport principles, the 15-minute city concept, and the Avoid–Shift–Improve (ASI) framework during the Design Phase. Insights on accessibility, equity, and environmental impact guide decision-making as teams map challenges and develop practical solutions. This process helps youth workers understand how urban planning works, the perspectives of different roles, and the importance of teamwork. It also prepares them to advocate effectively to decision makers and to engage young people in identifying issues, proposing solutions, and participating in real-world change.



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Resources:

- Glossary, in the following page.
- Bibliography, included at the end of this document.
- Links to relevant sections of the WP2 e-portfolio.
- Activity Sheets for scenario tasks:
- Rubric for evaluation:
- Instructions for Youth Workers/Trainers on how to use the module content and run the scenario:
- Additional reading materials, videos, podcasts or links

Glossary

- **Behaviour Change:** Strategies that encourage individuals and communities to adopt sustainable and inclusive transport habits.
- **Circular Economy:** An approach where materials are reused, repaired, recycled, or recovered to minimise waste and extend resource lifecycles.
- **Environmental Protection:** Measures and practices aimed at preserving natural resources and reducing harm from human activity.
- **Green Engineering:** The use of renewable energy, eco-friendly materials, and sustainable technologies in transport infrastructure and vehicles.
- **Infrastructure:** The fundamental physical and organisational systems, such as transport, utilities, and communications, that support the functioning of a society or city.
- **Integrated Planning:** Coordinated development of urban, transport, and environmental systems to achieve efficiency, accessibility, and sustainability.
- **Low-Impact Development:** Urban design that incorporates green spaces, biodiversity, and stormwater management to make infrastructure more resilient.



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- **Sustainable Design:** Planning and constructing infrastructure to minimise environmental impact, conserve resources, and enhance social and economic outcomes.
- **Sustainable Transportation:** Transport systems that are environmentally friendly, socially inclusive, and economically viable, reducing emissions and supporting accessibility.
- **Sustainable Transportation:** Transport systems that are environmentally friendly, economically viable, and socially inclusive, promoting accessibility and reducing emissions.
- **Transport Systems:** The network of infrastructure, vehicles, services, and policies enabling movement of people and goods.
- **Urban Design:** The process of shaping the physical layout, appearance, and functionality of urban spaces to create well-organised, accessible, and liveable environments.
- **User-Centred Design:** A design approach that prioritises the needs, preferences, and abilities of end users at every stage of development.

Links to relevant sections of the WP2 e-portfolio (case studies, best practices):

- Prepare Me... As I Am... for Public Transport: <https://act4dys.eu/prepare-me-as-i-am-for-public-transport/>
- Railway Accessibility in Łódź: <https://act4dys.eu/railway-accessibility-in-lodz/>
- The Independent Travel Support (ITS): <https://act4dys.eu/the-independent-travel-support-its/>

Additional reading materials, videos, podcasts or links:

- Poster '10 Principles for sustainable urban transport': https://changing-transport.org/wp-content/uploads/2023_GIZ_SUT_Poster_10years.pdf
- Interactive webpage with the 10 principles for sustainable urban transport: <https://sutp.org/>



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- Environment and Transport – a relevant chapter of theory developed by the Environmental Protection Agency (Ireland):
<https://www.epa.ie/publications/monitoring--assessment/assessment/state-of-the-environment/EPA-Ireland%27s-Environment-2020-Chapter11.pdf>
- Greenpeace 'Making transport sustainable' activities for young people:
<https://www.greenpeace.org.uk/wp-content/uploads/2024/07/GP-Sustainable-Transport-11-14-years.pdf>
- Reimagining Urban Living: The 15-Minute City Article: <https://www.re-thinkingthefuture.com/architectural-community/a13474-reimagining-urban-living-the-15-minute-city/>

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Module 2 – SCENARIO

Introduction and Presentation (15 minutes).

This practical activity invites youth workers to explore transport challenges in their local area and develop simple, realistic solutions to create a neighbourhood that is accessible and suitable for young people, including young persons with disabilities, with a clear focus on transport. Participants are encouraged to consider both physical infrastructure and smart transport / digital tools.

Begin with a short presentation and group discussion focusing on transport challenges, congestion, and car dependency.

Opening discussion prompts (Greenpeace, 2024):

- What does transport mean to you?
- Share experiences: In the last month, where did you go and what transport did you use?
- Discuss how transport systems affect people locally and globally, including the links between transport, climate change, air quality, and social inequality.

Key discussion points:

- Emphasise that building more roads does not reduce congestion. New roads encourage more people to drive, travel further, and make more trips, which leads to more traffic and higher greenhouse gas emissions.
- Highlight that we need fewer cars on the roads, not more roads.
- Introduce the idea of sustainable transport as ways of travelling that are safe, inclusive, and have a low environmental impact.
- Emphasise accessibility for young persons with disabilities, low-emission infrastructure, and the role of green spaces in improving wellbeing and urban life.

Lastly, explain that there are two key ways participants can help create change:



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1. Make personal changes in everyday life (e.g., walking, cycling, using public transport more).
2. Influence decision makers to make walking, cycling, and public transport easier, safer, and more accessible for everyone.

Conclude by explaining the activity and giving clear instructions for the group work.

Team Formation and Role Assignment (5 minutes).

Participants are divided into small groups. Each group approaches the activity from a specific role perspective, which will shape how they analyse problems and propose solutions.

Assign one role per group (or per person within a group if numbers allow):

- Urban Planners: Focus on street layout, connectivity, safety, and how different transport modes interact.
- Disability Advocates: Focus on accessibility, consistency, dignity, and independence for young persons with disabilities.
- Community Representatives: Focus on the everyday needs of young people, safety, affordability, and social inclusion.
- Environmental Experts: Focus on reducing car use, lowering emissions, green infrastructure, and climate impacts.
- Tech Innovators: Focus on digital and smart transport tools that make travel easier, safer, and more inclusive.

Each group is told that they are working on the same local area, but each will analyse it through their assigned role. The worksheet below is designed to guide participants through the steps of the Design Phase and support them in preparing their presentation.



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Module 2 – ACTIVITIES

Activity Sheet 1: Task: "Urban Planner" Role - Scenario 2

Module/Scenario Title: Scenario 2: Improving alternative transportation - encouraging sustainable practices

Assigned Role: Urban Planner

Activity Objective: As the Urban Planner, your goal is to ensure that your team's proposal creates a safe, well-connected, and accessible neighbourhood that supports sustainable transport for young people, including young persons with disabilities.

Instructions:

- 1. Review the Scenario:** Carefully read the scenario provided. Pay attention to transport challenges, congestion, car dependency, and the principles of sustainable transport, the 15-minute city, and the Avoid–Shift–Improve (ASI) framework.
- 2. Identify Local Challenges:** Focus on the physical layout of the local area. Identify three key challenges that affect walking, cycling, and public transport connectivity. Consider intersections, street networks, and safe routes to key destinations such as schools, youth centres, and parks.
- 3. Map the Challenges:** On your local map, mark these three challenges. Note how they affect travel times, safety, and access for young people, particularly young persons with disabilities.
- 4. Form Solutions:** Propose at least one practical urban design solution for each challenge. Think about street layout improvements, traffic calming, pedestrian priority areas, and integrating sustainable transport options.
- 5. Collaborate with Your Team:** Discuss your findings and proposals with the other roles (Community Representatives, Environmental Experts, Disability Advocates,



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Tech Innovators). Explain the importance of connectivity, accessibility, and safety within the urban plan.

6. Refine Your Ideas: Ensure your solutions contribute to:

- **Avoid:** Reduce unnecessary travel by improving access.
- **Shift:** Encourage walking, cycling, and public transport.
- **Improve:** Facilitate cleaner and smarter transport options.

7. Prepare Your Contribution for Presentation: Be ready to explain to the evaluators how your proposals help create a connected, accessible, and sustainable neighbourhood, highlighting specific urban design solutions and their impact on young people and young persons with disabilities.

Additional Resources:

Consult relevant sections of the [interactive E-portfolio](#) with case studies and best practices in inclusive urban development, transportation, and sustainable practices.

- Block by block initiative: <https://www.blockbyblock.org/>
- Her City – A Guide for Cities to Sustainable and Inclusive Urban Planning and Design together with Girls: <https://unhabitat.org/her-city-a-guide-for-cities-to-sustainable-and-inclusive-urban-planning-and-design-together-with>
- Activity mapping in urban design: <https://urbandesignlab.in/activity-mapping-in-urban-design/?srsId=AfmBOopMfQoCKgrPNe6sPEpKOVINoXcNI201qU530GQzeUp85N4WqOTT>

Space for Notes and Ideas:



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Activity Sheet 2: Task: "Disability Advocate" Role - Scenario 2

Module/Scenario Title: Scenario 2: Improving alternative transportation - encouraging sustainable practices

Assigned Role: Disability Advocate

Activity Objective: As the Disability Advocate, your goal is to ensure that all proposed solutions consider the needs of young persons with disabilities and create an accessible, inclusive transport network.

Instructions:

- 1. Review the Scenario:** Read the scenario carefully, focusing on accessibility challenges and inclusive transport practices.
- 2. Identify Local Challenges:** Look for barriers that prevent independent travel for young persons with disabilities. Consider pavements, crossings, lifts, station access, and public transport services.
- 3. Map the Challenges:** Mark these barriers on your local map, noting which groups are most affected.
- 4. Form Solutions:** Suggest practical accessibility solutions, such as step-free routes, tactile paving, accessible signage, or improved public transport services.
- 5. Collaborate with Your Team:** Work with other roles to integrate accessibility into street layouts, community needs, environmental plans, and digital tools.
- 6. Refine Your Ideas:** Make sure your solutions align with the ASI framework and promote independence and inclusion.
- 7. Prepare Your Contribution for Presentation:** Be ready to explain how your proposals remove barriers and ensure full access to sustainable transport for young persons with disabilities.

Additional Resources:



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- Consult relevant sections of the [interactive E-portfolio](#) with case studies and best practices in sustainable transportation systems.
- Planning for inclusive active transportation: A systematic literature review of disability integration and interventions:
<https://www.sciencedirect.com/science/article/pii/S221414052500218X>
- From Challenges to Solutions: Building Inclusive Transport for People with Disabilities: <https://itdp.org/publication/building-inclusive-transport-for-people-with-disabilities/>
- Getting Nowhere: Make Accessibility Mandatory (Irish Wheelchair Association): <https://www.iwa.ie/get-involved/advocacy-campaigns/our-campaigns/getting-nowhere-time-for-true-access/>

Space for Notes and Ideas:

Activity Sheet 3 Task: "Community Representative" Role - Scenario 2

Module/Scenario Title: Scenario 2: Improving alternative transportation - encouraging sustainable practices

Assigned Role: Community Representative

Activity Objective: As the Community Representative, your goal is to ensure that the transport proposals meet the everyday needs of young people, supporting safety, affordability, and social inclusion.

Instructions:

- 1. Review the Scenario:** Review the scenario, focusing on the social and community impact of transport systems.
- 2. Identify Local Challenges:** Note challenges such as unsafe routes, poor lighting, high transport costs, or inaccessible community spaces.
- 3. Map the Challenges:** Highlight on the map where these challenges occur and who is affected.



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4. Form Solutions: Propose solutions like safer pedestrian paths, community spaces integration, affordable transport schemes, or better lighting.

5. Collaborate with Your Team: Work with Urban Planners, Disability Advocates, Environmental Experts, and Tech Innovators to balance community needs with design, sustainability, and accessibility.

6. Refine Your Ideas: Ensure solutions contribute to ASI objectives and make transport inclusive and sustainable.

7. Prepare Your Contribution for Presentation: Be ready to explain how your solutions meet community needs, support young people, and improve accessibility and sustainability.

Additional Resources:

Consult relevant sections of the [interactive E-portfolio](#) with case studies and best practices in sustainable transportation systems.

- Introduction to multi-modal transportation planning:
https://vtpi.org/multimodal_planning.pdf

Space for Notes and Ideas:



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Activity Sheet 4: Task: "Environmental Expert" Role - Scenario 2

Module/Scenario Title: Scenario 2: Improving alternative transportation - encouraging sustainable practices

Assigned Role: Environmental Expert

Activity Objective: As the Environmental Expert, your goal is to ensure that your team's proposals reduce environmental impact, lower emissions, and integrate green infrastructure.

Instructions:

- 1. Review the Scenario:** Focus on sustainability principles, low-emission transport, and environmental benefits.
- 2. Identify Local Challenges:** Note areas where car dependency is high, green space is lacking, or pollution impacts accessibility.
- 3. Map the Challenges:** Mark these environmental issues on the map.
- 4. Form Solutions:** Suggest interventions like bike lanes, low-emission zones, green corridors, or planting trees along walking routes.
- 5. Collaborate with Your Team:** Integrate your solutions with urban planning, accessibility, and community needs.
- 6. Refine Your Ideas:** Make sure solutions support ASI objectives and sustainable transport behaviours.
- 7. Prepare Your Contribution for Presentation:** Explain how your solutions reduce car use, emissions, and enhance green spaces.

Additional Resources:

Consult relevant sections of the [interactive E-portfolio](#) with case studies and best practices in sustainable transportation systems.



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- What is sustainable transport and what role does it play in tackling climate change?: <https://climatepromise.undp.org/news-and-stories/what-sustainable-transport-and-what-role-does-it-play-tackling-climate-change>
- National Sustainable Mobility Policy: <https://www.gov.ie/en/department-of-transport/publications/national-sustainable-mobility-policy/>
- The Future of Sustainable Transportation: <https://iere.org/the-future-of-sustainable-transportation/>

Space for Notes and Ideas:

Activity Sheet 4: Task: "Tech Innovator" Role - Scenario 2

Module/Scenario Title: Scenario 2: Improving alternative transportation - encouraging sustainable practices

Assigned Role: Tech Innovator

Activity Objective: As the Tech Innovator, your goal is to design digital or smart transport tools that make travel easier, safer, and more inclusive for young people.

Instructions:

- 1. Review the Scenario:** Consider smart transport tools and digital solutions that improve accessibility, efficiency, and information.
- 2. Identify Local Challenges:** Note where digital tools could address gaps, such as journey planning, accessibility alerts, or real-time service updates.
- 3. Map the Challenges:** Mark these areas on your local map.
- 4. Form Solutions:** Propose tools like apps for accessible routes, smart ticketing, real-time public transport updates, or gamification to encourage sustainable travel.
- 5. Collaborate with Your Team:** Work with Urban Planners, Disability Advocates, Community Representatives, and Environmental Experts to integrate technology with physical infrastructure.



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6. Refine Your Ideas: Ensure digital solutions support ASI principles and improve accessibility, sustainability, and convenience.

7. Prepare Your Contribution for Presentation: Be ready to explain how your technology enhances transport options, supports inclusion, and encourages sustainable behaviours.

Additional Resources:

Consult relevant sections of the [interactive E-portfolio](#) with case studies and best practices in sustainable transportation systems.

- Intelligent transportation systems: Transforming modern mobility:
<https://www.iso.org/transport/its-intelligent-transportation-systems>
- Smart Transportation: An Overview of Technologies and Applications:
<https://pmc.ncbi.nlm.nih.gov/articles/PMC10143476/>
- Intelligent transportation systems for sustainable smart cities:
<https://www.sciencedirect.com/science/article/pii/S2666691X24000277>

Space for Notes and Ideas:



Module 2 – RUBRIC

Criteria	5 - Exemplary	4 - Proficient	3 - Satisfactory	2 - Needs Improvement	1 - Unsatisfactory
Evaluates alternative transportation systems and practices that support sustainability	Evaluates a range of alternative systems and practices, suggesting creative ideas for promoting change. Clearly explains benefits, challenges, and potential impacts, and relates this to the needs and barriers faced by young people and young persons with disabilities.	Provides a well-reasoned evaluation of key alternative transport systems and practices, mostly accurate with some original insight. Begins to connect their evaluation to youth work settings.	Gives a basic evaluation of alternative transport systems and practices. Offers some explanation of benefits, challenges, and potential impacts, with reference to how these might affect young people.	Offers a limited evaluation with vague understanding of the topic. Key aspects – such as main systems, practices, benefits, or challenges – are unclear or missing. Little or no connection made to working with young people or recognising diverse needs.	Fails to evaluate sustainable transport systems and practices. Content is mostly missing or incorrect. No relevant connection made to youth work or the needs of young people and young persons with disabilities.
Analyse case studies and examples of sustainable transportation designs and initiatives.	Analyses multiple case studies with strong critical insight. Clearly compares different approaches, identifies impacts on diverse communities, and reflects thoughtfully on lessons for future projects. Shows clear understanding of how young people, including those with disabilities, can be involved in the design and implementation of similar initiatives.	Offers a solid analysis of relevant case studies, showing a good understanding of design and effectiveness. Begins to explore how young people could be involved and how inclusive approaches could be used in youth work settings.	Provides a basic analysis of case studies. Shows some understanding of sustainable design approaches and how ideas from examples can be applied, though analysis lacks depth.	Analysis of case studies is limited or general. Few connections made to case studies, their wider impacts, or potential youth participation. Key ideas are missing or underdeveloped.	Lacks meaningful analysis or uses inaccurate or irrelevant examples. Shows little or no understanding of lessons from case studies. No evidence of understanding how these could inform work with young people or diverse groups.
Apply principles of	Applies sustainable principles creatively	Suggests practical improvements that	Applies basic ideas to suggest	Offers vague or incomplete ideas	Fails to apply sustainable design



Criteria	5 - Exemplary	4 - Proficient	3 - Satisfactory	2 - Needs Improvement	1 - Unsatisfactory
sustainable design to improve transport systems and encourage behaviour change.	to propose detailed, realistic improvements. Shows leadership, teamwork, and clear communication in promoting sustainable practices and encouraging behaviour change. Collaborates effectively with young people, including those from diverse groups and with disabilities, to plan and test initiatives. Actively involves participants in using design thinking and problem-solving methods.	align with sustainability goals. Shows good leadership, teamwork, and communication when promoting change. Begins to engage young people in collaborative planning and introduces design thinking approaches.	improvements, though some may lack detail or feasibility. Shows a reasonable level of teamwork and communication, with some leadership. Involvement of young people and use of design thinking is limited but present.	with limited link to sustainable design principles. Leadership, teamwork, and communication skills need further development. Little evidence of engaging young people or applying collaborative planning methods.	principles or suggest relevant improvements. Leadership, teamwork, and communication skills are weak or not demonstrated. No meaningful collaboration or engagement with young people is evident.
Assesses the challenges of implementing sustainable transport solutions.	Identifies a wide range of social, environmental, and practical challenges in implementing sustainable transport. Offers solutions and critically discusses them with young people, including those with disabilities. Recognises issues of equity, accessibility, and inclusion in the planning process.	Recognises common challenges to implementing sustainable transport and offers clear, well-reasoned suggestions to overcome them. Shows awareness of accessibility and begins engaging young people in identifying barriers and possible solutions.	Identifies a few basic challenges related to improving or updating sustainable transport. Provides some ideas for improvement, though these may lack detail or broader consideration. Limited engagement with young people or diverse perspectives.	Struggles to identify key challenges. Suggestions are vague or not clearly linked to sustainable practices. Minimal consideration of equity or the views of young people.	Fails to assess relevant challenges. Responses lack clarity or relevance. No evidence of including young people or diverse groups in discussion.