TRANS-SAFE

TRANSFORMING ROAD SAFETY IN AFRICA

HORIZON-CL5-2021-D6-01-11:
Radical improvement of road safety in low- and medium-income countries in Africa

D6.2: Capacity Building Tools and Updates

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Summary Sheet

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Abstract	D6.2-**Capacity Building Tools and Updates** is aimed at developing a modular package of capacity building tools and methodologies, tailor-made to reflect local audiences' needs

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LIST OF ABBREVIATIONS

Acronyms	Full meaning
ARSO	The African Road Safety Observatory
AFEM	The African Federation for Emergency Medicine
BEC	Basic Emergency Care
EU	The European Union
HPR	Health Policy Research (University of Pennsylvania)
ICLEI	The International Council for Local Environmental Initiatives
ITDP	The Institute of Transportation and Development Policy
IFEM	The International Federation for Emergency Medicine
JAES	Joint EU-Africa Strategy
NARSA	National Road Safety Agency (Zambia)
RS-PAT	Road Safety Project Assessment Tool
SDG	Sustainable Development Goals
SSA	Safe Systems Approach
SANRAL	The South African Nationals Roads Agency
TRANSSAFE	Transforming Road Safety in Africa
TUB	Technical University Berlin
UNIFI	Università degli Studi di Firenze
UITP	Union Internationale des Transports Publics
UH	University Hasselt
UNH	UN-Habitat
UNEP	United Nations Environmental Programme
WHO	World Health Organization

EXECUTIVE SUMMARY

The main objective of WP6 Deliverable 6.2 “Capacity Building Tools and Updates” is to develop a modular package of capacity building tools and methodologies, tailor-made to reflect local audiences’ needs. This package shall regularly be updated until the end of the project such that its value is maintained beyond the project’s lifetime, the result will also be shared through partner`s channels.

This deliverable therefore sets a clear framework for the capacity building activities and tools that will take place throughout the implementation of the TRANS-SAFE project, ensuring that relevant groups in the partner cities acquire knowledge and expertise necessary to successfully implement the road safety demonstration actions and related policy and regulatory efforts.

The deliverable provides insights into the thematic topics that were identified through the skill audit, demonstrations actions and peer to peer trainings and serves as a roadmap that outlines the key components and steps required to achieve the goals of a capacity building initiative.

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1. INTRODUCTION

The TRANS-SAFE project involves national, regional, and city level demonstrations to test different types of innovative and integrated Safe System solutions, complemented by a comprehensive toolbox, capacity development, policy support and replication activities. To maximize impact, the project brings together in a consortium, highly committed cities, road safety agencies and experts from both Europe and Africa. Building on numerous synergistic projects, networks, and a strong technical experience among partners, the consortium will deliver on project objectives through highly effective and innovative approaches to sustainable road safety development, thereby ensuring that road safety systems and interventions from this project deliver on the recommendations of the Road Safety Cluster of the African-EU Transport Task Force, adopted in 2020.

The consortium members have experience and expertise in Africa-related research as well as development-related research in collaboration with local actors in various countries of Africa at many levels. Ultimately, the project will help deliver on the Joint EU-Africa Strategy (JAES) and advance countries' progress towards the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). TRANS-SAFE leverages on existing partnerships to collaboratively design sustainable interventions that aim to radically transform road safety systems in Africa.

2. RESULTS FROM THE CAPACITY BUILDING AUDIT AND NEEDS ASSESSMENT (BASED ON TRANS SAFE DELIVERABLE 6.1)

Capacity building is crucial process needed to ensure success of the TRANS SAFE project as it provides a structured and organized plan for developing and equipping individuals, organizations and communities with skills, knowledge, resources they need to effectively address their road safety challenges.

A road safety skill audit was conducted in Work Package 6 task 1, and results are reported in Deliverable 6.1. Building on the results of the skill audit as summarized below, Deliverable 6.2 helps to identify the missing 'piece of the pie', the weakest links and people's greatest needs for capacity building.

According to the survey results (see table 1), a significant majority of respondents, specifically 78.9%, expressed their interest in education and information related to road safety. Additionally, 54.4% of respondents indicated their interest in data, research, and evaluation. Coordination efforts garnered interest from 47.8% of respondents. Road rules and enforcement attracted the interest of 43.3% of respondents. Regarding specific areas of focus, 33.3% of respondents expressed interest in innovation. Standards were of interest to 22.2% of respondents. Licencing and registration garnered the interest of 11.1% of respondents. Furthermore, 22.2% of respondents provided other areas of interest, which encompassed a range of topics such as vehicles and drivers, emergency care, strategy and plans, as well as advocacy and building partnerships.

Table 1: Interest in Road Safety (Result of TNA)

Interest in road safety

Value	Percent	Count
Education and Information	78.9%	71
Data, research and evaluation	54.4%	49
Coordination	47.8%	43
Road rules and enforcement	43.3%	39
Innovation	33.3%	30
Standards	22.2%	20
Other - Write In	22.2%	20
Licensing and registration	11.1%	10

Other - Write In	Count
Advocacy and Building Partnerships	5
Community based interventions, Road safety advocacy, safe roads messages	4
Emergency Care	6
Vehicles and drivers	1
Strategy and plans	4
Totals	**20**

In a second set of questions, the question was asked, “how likely, in your opinion, is it that by 2030 in the country/countries where you work there will be legislation, enforcement, education and technology” along the five pillars of the Safe Systems approach? The respondents could choose from the following ratings: Confident will deliver, probably can deliver, need support to deliver, not relevant. The results revealed the following:

Table 2: Safe Road Users

	Confident will deliver	Probably can deliver	Need support to deliver	Not relevant	Responses
	Count	Count	Count	Count	Count
LEGISLATION: Traffic rules for drivers, cyclists and pedestrians	30	30	27	1	88
ENFORCEMENT: Lawful behavior ensured by police and inspectors	24	20	41	3	88
EDUCATION: Awareness raising, training and examinations for road users	21	28	36	2	87
TECHNOLOGY: Supportive technology and equipment, rules reminders for safe users	16	13	56	2	87

Table 3: Safe Vehicles

	Confident will deliver	Probably can deliver	Need support to deliver	Not relevant	Responses
	Count	Count	Count	Count	Count
LEGISLATION: Rules and standards for admission of vehicles to traffic	23	34	28	3	88
ENFORCEMENT: Certification and inspections by qualified inspectors for safe vehicles	25	28	30	4	87
EDUCATION: Awareness raising for users, training for inspectors	26	29	29	2	86
TECHNOLOGY: Supportive technology and equipment, compliance reminders	15	19	50	3	87

Table 4: Safe Roads

	Confident will deliver	Probably can deliver	Need support to deliver	Not relevant	Responses
LEGISLATION: Standards for design, construction, maintenance and signage for safe roads	21	23	41	3	88
ENFORCEMENT: Audit, assessment and inspection by qualified teams for safe roads	15	25	44	3	87
EDUCATION: Awareness raising for road managers, and for inspectors	21	26	35	2	84
TECHNOLOGY: Forgiving and self-explaining road design and intelligent road systems	16	15	51	5	87

Table 5: Multimodal Transport/ Land-Use

	Confident will deliver	Probably can deliver	Need support to deliver	Not relevant	Responses
	Count	Count	Count	Count	Count
LEGISLATION: Policies that promote compact urban street and public space design, lower speeds and give priority to pedestrians, cyclists and public transport users.	19	26	40	1	86
ENFORCEMENT: Discourage the use of private vehicles in high density urban areas	13	20	46	8	87
EDUCATION: Promote positive marketing and use of incentives	16	26	40	3	85
TECHNOLOGY: Ensure walking and cycling are as safe as motorised modes and serve the travel needs of all ages and abilities.	16	18	49	3	86

Table 6: Effective Post Crash Response

	Confident will deliver	Probably can deliver	Need support to deliver	Not relevant	Responses
	Count	Count	Count	Count	Count
LEGISLATION: Standards for data collection post-crash response and investigation	18	23	45	2	88
ENFORCEMENT: Oversight of rescue services, investigators investigating crashes	14	15	54	3	86
EDUCATION: First aid and rescue service training, investigators training	18	25	45	1	89
TECHNOLOGY: Supportive technology and equipment	14	14	55	3	86

Table 7: Summary "Need Support to Deliver" – Requirements for Implementation

	"Need Support to Deliver" (total responses)
Legislation	***181***
Enforcement	***215***
Education	***185***
Technology	***261***

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Table 8: Summary "Need support to Deliver" – Pillars of Safe Systems Approach

	"Need Support to Deliver" (total responses)
Safe Road User	*160*
Safe Vehicle	*137*
Safe Roads	*171*
Multimodal Transport	*175*
Post Crash Response	*199*

To summarize:

- There is a general view that there is "**Need for support to deliver**" on road safety along all five pillars of the Safe Systems Approach, as well as in relation to the "requirements for implementation" (legislation; enforcement; education; technology)
- Highest capacity building need on the Safe Systems pillar of **Post Crash Response** (199 responses), followed by **Multimodal Transport and Land Use Planning** (175 responses), **Safe Roads** (171 responses), Safe Road User (160 responses), Safe Vehicle (137 responses).
- Particular support needed on "Requirements for Implementation" of **Technology** (261 responses), followed by **Enforcement** (215 responses), Education (185 responses) and Legislation (181 responses).

3. THEMATIC PRIORITIES FOR THE CAPACITY BUILDING PROGRAMME

Based on the results from the training needs assessment and complemented by discussions with city partners and consortium members, the following thematic areas (see table 9) were identified for the capacity building programme, and tentative responsibilities among consortium members are indicated.

Table 9: Capacity Building Thematic Areas (tentative)

No.	Module Title	Supporting partners (tbc)	Tentative start date of course development
Introductory Course			
0.1	Intro to TRANS SAFE	**Leads**: TUB, UNH, Walk21 **Contributors**: UNEP **Proposed External Experts**: WHO	August/ September 2023
0.2	Introduction to the Safe Systems Approach		
0.3	The Five Pillars and Recommended Actions for Africa		
0.4	Introduction to the pilot project initiatives under TRANS SAFE & their contribution to the Safe Systems approach		
0.5	Overview of the Learning Programme		
Course 1: Road Safety Data			
1.1	The need for Scientific Research in Road Safety (needs, impacts, benefits…)	**Leads:** UH, Our, HPR, UNIFI, UWB, GoMetro **Contributors:** Walk21 **Proposed External Experts:** Ecole Hassania des Travaux Publics – Morocco, IIT India, TIMCON Kenya, iRAP, Unwalkable Cities	January 2024
1.2	Different theories and approaches to traffic accident analysis (Causal accident theory, Accident as a random event, Accident proneness theory);		
1.3	Road Safety Audits and Crash Risk mapping		
1.4	Setting up and Maintaining Road Safety Data Observatories		
1.5	Methods for Road Safety Data Collection and Analysis (data collection methods, Identification of potential road safety problems, Selection of intervention areas)		
1.6	Using scientific methods to measure the effectiveness and the impact of road safety interventions (developing indicators for measuring progress)		
1.7	Using data for evidence-based decision-making		
Course 2: Road Safety Management			
2.1	A multi-sectoral (co-benefits) and multi-stakeholder approach to road safety management	**Leads**: NARSA, UNEP, UITP, ICLEI WS **Contributor**: Walk21 **Leads:** UH, Our, HPR, UNIFI, UWB, GoMetro **Contributors:** Walk21 **Proposed External Experts:** Flone Initiative Kenya, Charter Cities Institute Zambia	May 2024
2.2	Institutional frameworks & roles of lead agencies for road safety		
2.3	Ensuring a gender perspective in road safety management		
Practice session	*A gendered perspective on road safety with two cases: Access to markets in Lusaka, Zambia; cycling mobility for women in Africa (ICLEI WS and guest contributors from Charter cities institute, Zambia)*		

Course 3: Road Safety Policy & Legislation			
3.1	Development of a Road Safety Strategy & Implementation Plan	**Leads**: NARSA, ITDP, UNEP, UNIFI, TUB, HPR **Contributors:** UNH, THI, UITP, UR, UWB **Proposed External Experts:** National Transport Safety Authority Kenya, Ecole Hassania des Travaux Publics – Morocco	March 2024
3.2	Traffic rules and licensing requirements:		
3.3	Road Design Standards (complete streets, signage etc.)		
3.4	Vehicle safety standards		
3.5	Traffic & Speed Management Measures to Improve Road Safety (impact of congestion, traffic management measures incl. traffic calming & access control, intelligent traffic management i.e. for speed)		
3.6	Transport planning & Policies that encourage multimodal transport and land-use planning		
3.7	Helmet standards		
Practice Session 1	*UNEP Ghana course "Road Safety and Walking and Cycling" - UNEP*		
Practice Session 2	*Settlement upgrading through street-led transformation in African cities (UN-Habitat Walk 21 event)*		
Course 4: Enforcement			
4.1	Traffic offenses and the need for law enforcement & compliance	**Lead**: HPR **Proposed External Experts**: National Policy Representatives	December 2023
4.2	Key stakeholders and their roles in enforcement (government, road agenices, police, community based policing etc.)		
4.3	Use of technology in law enforcement		
Course 5: New Technologies and Innovation			
5.1	Innovations on Safety Equipment	**Leads**: UH, HPR, UR, UWB **Contributors**: THI **Proposed External Experts:** Ecole Hassania des Travaux Publics – Morocco	November 2023
5.2	Use of new technologies to improve road safety enforcement (Smart Cities); Could this include innovative infrastructure designs?		
5.3	Technology of Road accident reconstruction		
5.4	Intelligent road traffic and speed management & ITS		
5.5	Innovation and Post-Crash Response		
5.6	Innovative vehicle design and safety technology		
Practice Session 1	*Stop the Bleed Trainings (HPR) – Post Crash Response Courses*		
Practice Session 2	Modelling and simulation of traffic accidents		
Course 6: Education and Information			
6.1	Driver and Road User Behaviour & Strategies to influence behaviour	**Leads:** TUB, UR, HPR, UNH Contributors: UH **Proposed External Experts:** Global Road Safety Partnership	February 2024
6.2	Road crash prevention through Communication, awareness and education		
6.3	Road Safety Education in schools (zone 30s, safe route to school)		
6.4	Physiological and psychological constraints of drivers (perception, reaction time, stress, alcohol level ...)		
6.5	First aid for road users		
Course 7: Financing			
7.1	Government Allocations (national / local), Own municipal revenues	**Leads:** UNH, UNEP **Proposed External Experts:** UNECA, FIA Foundation, Safe Travel Philippines, Dandora Transformation League	July 2024
7.2	Public private partnerships		
7.3	tapping into private sector funding (car manufacturers, insurance companies Corporate Social Responsibility		
7.4	Road Users charges and fees		
7.5	Community led initiatives through citizen contributions		
7.6	International cooperation and funding opportunities		
7.7	Road Safety Project Assessment Tools		

4. THE CAPACITY BUILDING COORDINATION TOOL

Following the principle of the blended learning approach that entails a **combination of online components and offline activities**, the course content will be taken up by different implementation modalities, ranging from e-learning, face-to-face workshops, trainings at the Regional Centers of Excellence (see deliverable 6.4), peer-to-peer exchanges (see deliverable 6.3) or as university research and related knowledge materials (see deliverable 6.4).

A first **overview sheet** (the so-called TRANS-SAFE Master Excel for Capacity Building) has been drafted by the Work Package 6 partners to illustrate in a comprehensive manner the course content in relation to the training implementation modality. This logic is illustrated in the screenshot below that exemplifies Course no. 3 “Road Safety Policy & Legislation”. This Sheet is acting as the main tool for Work Package 6 partners to coordinate the capacity building programme going forward.

Table 10: Internal Coordination Sheet for Capacity Building (part 1)

Learning Programme Course Coordination

The purpose of this sheet is to help planning the content for courses and define the roles and responsibilitie

Course information				Target Audience	Internal Responsibilities		External Contribute	Implementation Modality				
Course Title	Activity	Timing	Course modules	Audience /Change Agent	Lead	Course contribution and support	Proposals for External Experts	E-Learning/ Virtual Workshop	Physical Workshop (i.e. Walk 21)	Regional Training	Topic Interest for City Exchange (Peer to Peer 6.3); link to pilot city needs	University Research (Reg CoE 6.4)
3 Road Safety Policy & Legislation	Unit 1	2024 March	3.1 Development of a Road Safety Strategy & Implementation Plan	Government	NARSA	Case Study Morocco		yes				
	Unit 2		3.2 Traffic rules and licensing requirements	Regulators, Government	NARSA		National Transport Safety Authority	yes				
	Unit 4		3.3 Road Design Standards (complete streets, signage etc.)	Government, Road Agencies	ITDP	UNH		yes				
			3.4 Vehicle safety standards	Government, Road Agencies	UNEP, UNIFI	THI		yes		Session at Walk21		
	Unit 5		3.5 Traffic & Speed Management Measures to Improve Road Safety (impact of congestion, traffic management measures incl. traffic calming & access control, intelligent traffic management i.e. for speed)	Municipalities	ITDP		Ecole Hassania des Travaux Publics , Morocco)	yes				
	Unit 5		3.6 Transport planning & Policies that encourage multimodal transport and land-use planning	Municipalities, NGOs, academia	TUB, ITDP	UITP, UNH, UR		yes	yes - TUB	yes - TUB		
	Unit 6		3.7 Helmet standards	Regulators, Government	HPR	UWB		yes				
	Practice session I		UNEP Ghana course "Road Safety and Walking and Cycling" - Janene	Municipalities, NGOs, academia	UNEP				Physical workhop took place in July 2023			
	Practice session II		Settlement upgrading through street-led transformation in African cities (UN-Habitat Walk 21 event)	Municipalities, NGOs, academia	UNH	TUB			Planned for Walk21 conference in October 2023			

Table 11: Internal Coordination Sheet for Capacity Building (part 2)

Learning Programme Course Coordination

The purpose of this sheet is to help planning the content for courses and define the roles and responsibilitie

Course information				Input and resources					
Course Title	Activity	Timing	Course modules	Input from other WPs	Good (and bad) practice case examples (cities)	Existing materials/ sources from other projects to build upon	Interview ideas	Synergy with other ongoing projects	
3 Road Safety Policy & Legislation	Unit 1	2024 March	3.1 Development of a Road Safety Strategy & Implementation Plan	WP1 & 2		UNECA resources			
	Unit 2		3.2 Traffic rules and licensing requirements	WP1 & 2					
	Unit 4		3.3 Road Design Standards (complete streets, signage etc.)	WP 3 & 4	Kenya and Ethiopia Urban Street Design Manuals			UNRSF supported Reclaiming Streets project	
			3.4 Vehicle safety standards	WP 3 & 4				EU funded SOLUTIONSplus	
	Unit 5		3.5 Traffic & Speed Management Measures to Improve Road Safety (impact of congestion, traffic management measures incl. traffic calming & access control, intelligent traffic management i.e. for speed)	WP 3 & 4					
	Unit 5		3.6 Transport planning & Policies that encourage multimodal transport and land-use planning	WP 3 & 4	Dar es Salaam BRT	Design Studio TUB (Master of Architecture, Master of Urban Design) Urban Managmenen Masters TUB, Blended learning programme 'Decarbonising cities'		EU funded SOLUTIONSplus	
	Unit 6		3.7 Helmet standards	WP 3 & 4					
	Practice session I		UNEP Ghana course "Road Safety and Walking and Cycling" - Janene						
	Practice session II		Settlement upgrading through street-led transformation in African cities (UN-Habitat Walk 21 event)					UNRSF supported Reclaiming Streets project	

5. CAPACITY BUILDING METHODOLOGY & TOOLS

The development of the capacity building tools will be an interdisciplinary collaborative process which will rely heavily on the collaboration of different stakeholders. This multi-disciplinary approach will help ensure that all trainings will be aligned to the Safe Systems Approach (SSA) and towards achieving a common goal. The TRANS-SAFE consortium members engaged in the network, while also responsible for sharing knowledge and building capacity, will primarily serve as a facilitator for learning.

5.1. CAPACITY BUILDING MODALITIES UNDER TRANS-SAFE

5.1.1 Global E-learning activities

The majority of the identified thematic courses (see table 9) will be taken up in an e-learning format, consisting of 1 webinar or pre-recorded presentation, complemented in some cases by learning sessions and the provision of technical materials and case studies. Courses will be uploaded to online platforms such as the EIT, TRANS-SAFE, NUA Campus, or Urban Living Lab Center websites, where content will be provided to a larger audience in the long-term.

Before uploading, each Course will be embedded within a short intro/ outro video branding TRANS-SAFE, and possibly external collaborators.

Figure 1: Screenshot "intro" and "outro" for e-learning videos

The development of the first e-learning modules has started and slide decks are currently being prepared to roll out the first online capacity building courses.

Figure 2: Example Slides of Course Module 0.2 "Introduction to the Safe Systems Approach"

5.1.2 Peer to peer exchange Programmes & Study Tours

The peer-to-peer learning network brings together peers from different national, subnational administrations as well as local, regional and international organizations within the TRANS-SAFE network to exchange knowledge and good practise on road safety.

The objective of the peer-to-peer programme is to facilitate a knowledge and skills sharing opportunity between key relevant stakeholders including officials from local authorities, technical experts and other professionals from selected cities in Europe and Africa. The knowledge and skills sharing as part of the peer-to-peer learning, would take part along three main phases where phase one would entail an inbound trip which would enable city officials and professionals receive skills and knowledge that is relevant to addressing their specific needs from experts and institutions from Europe to support in mainstreaming the SSA within the demo implementation actions and beyond.

Phase two will plan for logistics for an outbound staff exchange programme aimed at knowledge and skills sharing where selected key officials and professionals in selected African cities will have the opportunity to travel and gather better understanding of solutions and innovations tested out in the European context. This would involve components that have a capacity building aspect to upskill participants on the Safe Systems approach that can be adapted and tested in the African context. This would also provide a platform to learn about other aspects dealing with financing, vision building and governance arrangements.

Phase three would include establishing a virtual city to city exchange webinar session to share experiences and learnings from the learnings from the inbound and outbound activities as well as the implementation of the demos that would have been completed. This is aimed to foster south to south learning among African cities and partners to consider opportunities for scaling and replication of the actions to other cities in Africa. More details on peer-to-peer exchange can be found in deliverable 6.3.

5.1.3 City Specific Trainings in the Living Labs

The active involvement of road users and safety providers in the demonstration actions will foster a collaborative environment, allowing for the co-creation of solutions and rigorous testing of technologies and services. The city level implementation of demonstration action will be backed up by city-specific trainings. Specific topics will be identified in the course of the next few months, during the implementation of demo actions, in close collaboration with WP4. These trainings aim to meet city specific needs and fill capacity gaps that may emerge during the demo implementation phase.

The below table will be filled in due course (treating deliverable 6.2 as a living document) when implementation of the demo actions is ongoing, and when specific city level training needs emerge.

Table 12: TRANS-SAFE Demonstration Actions

Safe systems approach	Demonstration actions	City specific training needs (to be filled during project implementation – based on identified demand)
Rwanda		
Multimodal planning	Road safety dashboard/hotspot dynamic crash map	
	Road Safety Management Implementation Capacity Building	
Safe users	Walkability Mapping App	
	Route to School (R2S) app and student road safety educational modules	
	Adaptation and feasibility study of iDreams to African drivers, feedback system to nudge behavior change and early warnings (Buses/trucks/motos).	
Safe roads	Implement the international road assessment platform in Rwanda (Rwanda RAP)	
	Responsive, low-cost physical interventions at the sites audited for walkability	
Post-crash care	Add value and sustainability to post-crash care training by empowering responders to intervene.	
South Africa		
Safe roads	Analysis of highway camera videos using AI technology at 15 sites	
	Data collection from highway-adjacent pedestrian communities	
	Co-production of solutions with National Highway Agency (SANRAL)	
	Analysis of professional driver behaviour using Uber, Discovery, or Blue Dot telematics data	
	Work with UNIFI and UITP on adapting MeBeSafe, MOTORIST and i-Dreams apps to the Cape Town context	
	Conduct driver training/coaching with UNIFI and UITP	
	Adapt the Walkab ility app to the local context with Walk21	

Safe users	Data collection from women who walk in Cape Town with Walk21	
	Interventions proposed based on output of Her/Stride app	
Post-crash care	Translation and operationalization of the WHO/IFEM /AFEM framework for BEC and similar trainings to the national context through local integration, with UR	
	Achieve local integration through identification, empowerment, and financial support of individual and institutional champions to lead national translation and operationalization, with UR	
	Post-crash care training, with UR	
Safe speeds	Create a Road Safety Project Assessment Tool (RS-PAT)	
	Test RS-PAT on at least fifteen interventions across the TRANS-SAFE cities	
	Develop a guide for the use of RS-PAT in economically evaluating road safety interventions in African cities. Train practitioners in the use of RS-PAT	
	Adapt the Route2School app to the local context, led by UHasselt and UR.	
	Data collection from children who walk to school in Cape Town, with UHasselt	
	Interventions proposed based on output of Route2School app	
	Host a design competition among the UCT film, design, and art students to come up with the best way to communicate the Safe Systems approach	
Ghana		
Multimodal planning	Development of capacity building manuals	
	Capacity building workshops	
	Evaluation and certification	
	PhD Student	
	Choose and develop the most appropriate app with projects.	
	Train MTTU on the use and operation of the platform.	
Safe speeds	Police dynamic crash data mapping	
	Users' safety mapping app along the top 5 high risk pedestrian fatal crash	
	Implementation of smart traffic technologies in two high-risk traffic junctions in Kumasi	
Safe users	Selection of drivers	
	Training of selected drivers	
	Assessment and evaluation	
Safe roads	Community engagement for the intersection interventions	
	Implementing of low-cost interventions	
	Component 6.3: Establishment of a robust planning, implementation, monitoring, and evaluation framework for the deployment of low-cost road safety infrastructure	
Post-crash care	Lay-responders trained in Stop the Bleed	
	School children trained in basic injury response and resiliency	
	Clinicians trained in BEC, trauma resiliency and minimization of secondary emotional traumas	
	New BEC and stop the bleed trainers trained	
	Preparation for summit	
	Attending Safe Vehicles Summit	

5.1.4 Regional training workshops

Regional Training Workshops are planned to be hold at the Regional Centers of Excellence. The selection of topics is informed by the training needs assessment (as described in deliverable 6.1), and complemented by the expertise of the university partner.

Regional trainings shall be open and accessible to a wide regional audience, and training opportunities will be shared with the respondents of the training needs assessment beyond the direct partner countries.

Table 13: Proposed regional trainings at the African Regional Centers of Excellence

Possible Location	Possible Date	Proposed Topics
Kigali	October, 2023	Stop the bleed
Cape Town	tbc	Transport justice and road safety
	Tbc	Walking and cycling policy development
	Tbc	Universal design
	Tbc	Road traffic crash investigation
	tbc	Road safety data course (with ARSO)
Kumasi		Designing pedestrian and cycling-friendly cities
	Tbc	Smart Infrastructure for Safer Roads: Exploring Intelligent Roadway Monitoring Systems
	Tbc	Addressing Challenges in Post-Crash Care
	Tbc	Smart Traffic Light Systems: Enhancing Road Safety through AI and IoT Integration
Rabat	Tbc	Future Trends in Road Safety Technology: A Roadmap for Safer Transportation
	Tbc	Advancements in Emergency Medical Response and Post-Crash Care

The list of regional trainings is not exhaustive and may be adjusted over time in the duration of the project. Adjustments will be shared in the annual updates of this deliverable. More details can be found in deliverable 6.4.

5.1.5 Global Trainings linked with international conferences

In close cooperation with the Afro-safe sister project and other global road safety initiatives such as the Alliance of Cities for Road Safety, global capacity building opportunities are to be identified in conjunction with selected global conferences, in which partners members are active.

A global dissemination program is to be developed as part of WP7 activities. Selected conferences in which TRANS-SAFE partners are active, are to be targeted as platforms for regional and global trainings, such as ITF/OECD's International Transport Forum (ITF), SLoCaT's Transport and Climate Change Week, UN Environment and UN Habitat Assemblies, World Urban Forum, UITP's Global Public Transport Summit, Transport Research Arena, Transport Research Board, ITS congresses, Walk21's International conference on walking and liveable cities, the VeloCity conference among others. A complete list is developed jointly by WP 7 and available for all partners' inputs.

Through joint development of capacity building activities and training with other initiatives, the TRANS-SAFE project is expected to achieve increased impact and country coverage, efficient use of funds, and fulfil a gap in the existing resources available to support transformation.

5.1.6 Research programmes for Master and PhD students & development of knowledge products

Senior faculty from the African Universities (Regional Centers of Excellence) and EU University partners will lead candidate recruitment and collaborative development of appropriate curricula and pathways to completion, with support from UN-Habitat that leads the capacity building project task.

Objectives:

- To cultivate an expert body of African traffic safety professionals and engage community networks with skills to investigate, document, and reduce the burden of road traffic injury across Africa.
- To be a repository and generator of knowledge regarding road traffic safety in the planning, design, construction, and maintenance of transport infrastructure and Transport Safety Management. (Embed this in the regional centre via an existing online platform.

Table 14: Tentative research topics by African Universities

	Proposed level	Proposed Topics
	PhD	Study of the influence of non-motorized transport facilities in urban streets on pedestrian and bicycle-vehicle congestion crushes prevention
	PhD	Local infrastructure safety management and planning enhancement using iRAP methodology and Highway Development and Management tool
	PhD	Valuing Motorcycle Casualties in East Africa using Willingness-to-Pay Method: Stated-Preference Discrete Choice Modelling Approach.
	PHD	System evaluation of Influence of road user's behaviour on road crashes at junctions and crossings in the City of Kigali.
	PHD	Implementation research on Methods to improve post-crash care across a broad population of lay person responders.

The University of Rwanda	PHD	In-depth investigations of PTW crash injury biomechanics, patient outcomes and the impact protection of a wide variety of helmet standards, conditions and methods of use
	PHD	Economic analyses of innovative, digital road safety data collection and applications of findings to design and implement contextually tailored interventions in African countries.
	PHD	Pre-arrival notification to emergency departments, implementation science for optimization to improve patient outcomes and resource utilization.
	PHD	Impact of a district hospital intervention to improve post-crash care of open fractures in the first hour of arrival to decrease wound infections, osteomyelitis and disability
	PHD	The case for Road safety improvements and investments in NMT infrastructure in African low-income countries as sustainable development methodologies
The University of Cape Town	Doctoral	Pedestrian interactions with African urban freeways – with SANRAL
	Post-doctoral	Comparative study of road safety data management processes (links to UNIFI – In-Safe?)
	Doctoral	Analysis of professional driver behavior – Using Uber/Discovery/Blue Dot telematics data
	Doctoral	Micro-logistics and road safety –Helmets/Vehicle maintenance/Driver behavior/Delivery time targets (with UoR?)
	Doctoral	Child road safety
	Doctoral	Walkability/Stride/Her apps as a method of crowdsourcing road safety data
AAMUSTED Ghana	MPhil	Real-time Intelligent Traffic Management Systems: Develop AI-based algorithms and models to optimize traffic flow and reduce congestion, thereby enhancing road safety through real-time data analysis and adaptive traffic signal control
	MPhil	AI-Enabled Road Safety Education and Awareness: Create interactive AI-powered tools and platforms to educate drivers, pedestrians, and cyclists about road safety practices and potential hazards
	PhD	Integration of Advanced Technologies in Road Design: Explore the integration of emerging technologies such as connected and autonomous vehicles, intelligent transportation systems, and smart infrastructure to improve road safety.

Table 15: Tentative research topics by European Universities

University	Possible level	Proposed Topics
Technical University Berlin (TUB)	PhD	Resources in the frame of psychology of transportation
	PhD	Integration of e-mobility: energy/ renewables, safety
	Post-doc	Unit system for Road Safety: solution for training programs for road users
	Masters	Indicators and monitoring of sustainable e-mobility transportation (including road safety aspect)
UNIVERSITEIT HASSELT – (uhasselt)	tbc	tbc
Technische Hochschule Ingolstadt (THI)	Master or PhD Students	Application of infrastructure-based sensors for improvement of road safety
	Master or PhD student	Application of infrastructure-based sensors for improvement of road safety
UWB - University of West Bohemia	PhD	Personal protective equipment design
Universita Degli Studi di Firenze (UNIFI)	tbc	tbc

5.2. MEASURING THE IMPACT OF THE CAPACITY BUILDING APPROACH

The TRANS-SAFE partners will identify opportunities to measure the impact of the capacity building programme on the skills. A combination of pre-event and post-event surveys shall identify the knowledge gain achieved by the trainings, and evaluation forms provided to participants after each training shall provide feedback to continuously shape and improve capacity building content and implementation modalities.

6. EXPLORING CAPACITY BUILDING SYNERGIES WITH OTHER PROJECTS

For all capacity building activities, synergies with other similar projects shall be identified to maximise on the efficiency and avoid duplication. The following related projects have been identified that provide a multitude of collaboration ideas for different capacity building formats. In cases of co-development of content, or co-delivery of capacity building activities, materials and communication will be co-branded between the contributing projects.

6.1 AFRO-SAFE

The EU funded sister project AFRO-SAFE aims to significantly advance the spread of the Safe System mode of operation in the context of road safety initiatives in African nations. This is achieved by exposing local practitioners and decision-makers to state-of-the-art knowledge and practices in road safety management based on Safe System principles, and by supporting them by sharing knowledge, tools, and methods for road safety improvement—adapted to African conditions and in close collaboration with local actors. A joint capacity building programme is being explored to deliver training opportunities to a wider audience beyond the single project partners. Various coordination meetings were held between the coordinators of AFRO-SAFE and TRANS-SAFE to concretize on collaboration opportunities.

6.2 THE GLOBAL ALLIANCE OF CITIES FOR ROAD SAFETY

The main objective of this UN Road Safety Fund supported project is to establish the Alliance of Cities for Road Safety (ACRoS) which aims to become a one-stop shop for cities to engage in capacity building, receive technical advice, implement catalytic action and benefit from city-to-city exchange

ACRoS will provide an open platform for cities to be learn, be inspired and exchange knowledge on most appropriate local solutions to solve their road safety challenges while contributing to the climate goals.

This project recognizes that there is a great thirst from cities to exchange lessons learnt and have a significant impact on the reduction of road safety fatalities in African and Eastern Mediterranean cities.

The main objectives of this project are:

1. To provide a platform for cities to learn in order to find the most appropriate local solutions to solve their road safety challenges while contributing to climate goals.
2. To inspire and build the capacity of cities to improve road safety management in alignment with the safe systems approach, complementary to the national policy framework.

3. To reduce road crash fatalities through catalytic pilot initiatives at the city and neighbourhood level with strong participation of vulnerable groups
4. To secure additional investment in road safety and sustainable mobility to scale up interventions at the city level.
5. To bring together existing road safety initiatives to ensure synergies and peer learning.

6.3 RECLAIMING STREETS FOR WALKING AND CYCLING IN AFRICA

The main objective of this UN Road Safety Fund supported project is to reclaim the streets for pedestrians and cyclists in a few model cities in Africa.

Africa is the worst-performing continent in terms of road safety, with a fatality rate of 26.6 per 100.000 inhabitants, compared to the global average of 18.2, with numbers steadily rising.

Moreover, it accounts for the highest mortality rate in terms of pedestrians and cyclists, with 44% of the overall deaths reported for this category of road users, according to the World Health Organization. Children make up a sizeable share of road injuries and fatalities.

The project takes a comprehensive view and proposes a four-pronged approach to deliver concrete outcomes to enhance road safety and lower traffic injuries and fatalities in African cities.

In each of these project components, children's needs and rights will be explicitly integrated, alongside considerations of gender and ability. At all times, the project assumes that urban environments suitable for children are a truly inclusive environment for all.

Project objectives:

1. Support in-country scale-up of good street designs with established road safety frameworks
2. Provide on-demand design review assistance and capacity building to ensure good quality designs in newly built infrastructure.
3. Initiate the development of evidence-based child-centered policies and street design manuals including hazard mapping.
4. Contribute to improved investments in safer streets for pedestrians and cyclists across the African continent.

6.4 SOLUTIONSPLUS

The EU-funded SOLUTIONSplus project aims to enable transformational change towards sustainable urban mobility through innovative and integrated electric mobility solutions. To deliver this objective the project will boost the availability of electric vehicles, foster the efficiency of operations and support the integration of different types of e-mobility in large urban areas and addressing user needs and local conditions in Europe, Asia, Africa and Latin America.

Synergies will be explored for capacity building with particular focus on safe and green vehicles.

7. CONCLUSION

Based on the work of the TRANS SAFE project to-date, the following conclusions can be drawn.

1. Capacity building tools need to be applicable to the local context and reflect the needs of the local stakeholders.
2. A skill audit is important in understanding how well equipped a city or local partner is in implementing the foreseen road safety solution.
3. While developing courses for capacity building, it is important to understand how best they align with the local needs and capacity gaps.
4. It is important to work with partners both locally and globally in delivering effective training.
5. Road safety is a multifaced programme therefore requires the input of people with different expertise and backgrounds.
6. Because there are several similar projects on road safety, it is a great opportunity to share ideas and build synergies.
7. While developing the capacity building programme, it is important to also consider sustainability of the courses, scalability and replicability, longevity and adoptability to ensure a wide reach of the content of the courses.
8. A blended learning approach seems to be suitable, consisting of online and face-to-face training opportunities, to ensure cost-efficient delivery while still being able to build the needed relationships.

8. REFERENCES

1. https://roadsafetyfund.un.org/projects/safer-streets-road-users-africa#:~:text=A%20project%20to%20reclaim%20the,and%20fatalities%20in%20African%20cities.
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