



WORLD BANK

Analyzing access conditions in transport and urban environments for people with disability

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The example of the Dakar Diamniadio toll highway project

23/06/2011

Agenda

- A. Project Objectives**
- B. Methodology
- C. Diagnosis of accessibility on the DDTH project
- D. Recommendations

Presentation of DDTH project

The project

- ❑ The Dakar – Diamniadio Toll Highway project : a project with potentially major impacts on local mobility. It presents opportunities for reviewing accessibility and disability issues
- ❑ The project is composed of 3 components :
 - A) The construction of a road infrastructure (highway sections 3 and 4) ;
 - B) The resettlement of 30,000 inhabitants with the Right of Way Clearing in the Tivaouane Peulh Resettlement site
 - C) The Urban restructuring of Pikine Irrégulier Sud aimed at improving the living environment of PIS residents and providing better access to the area.

The objectives

- ❑ 2 main objectives are assigned to the study :
 - Review the accessibility of the DDTH project with the goal of developing a diagnostic method so that accessibility on streets, public area, transport infrastructure and services, can be provided and monitored
 - Propose recommendations to WB team leaders, partners and local authorities for addressing the needs of people with disabilities and people with impaired mobility in the context of the project and other similar transport projects.



Source : World Bank, *Project appraisal document*, 2009

Agenda

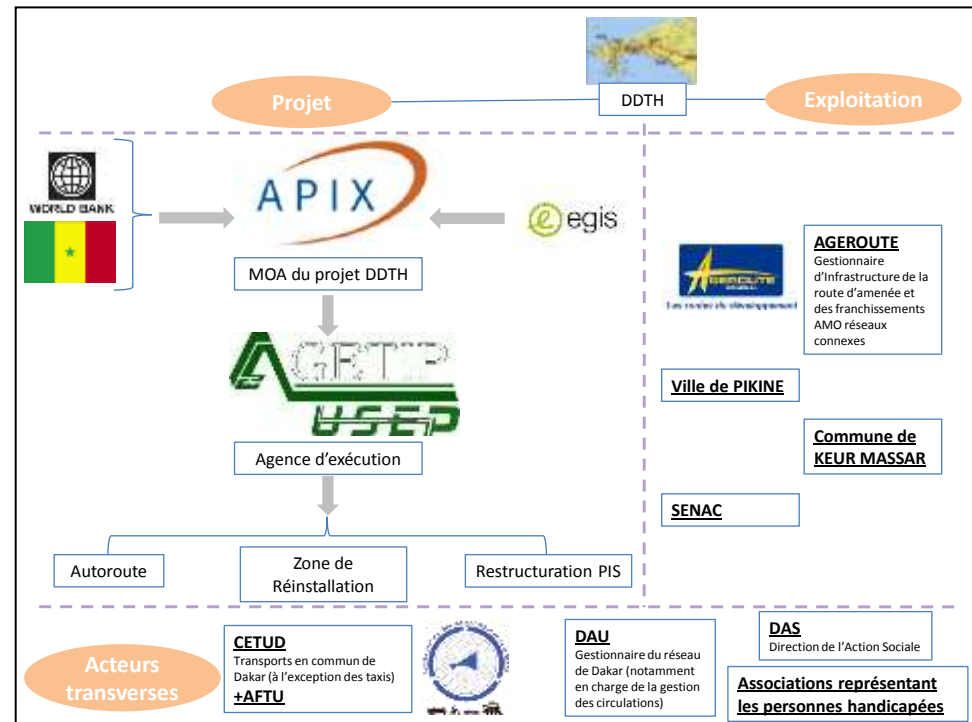
- A. Project Objectives
- B. Methodology**
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Tasks of the mission

Steps of the analysis

- ❑ Task 1: Situation analysis
 - Review and synthesis of the legal framework and policy context of the project area (including national, regional and international policies and legislation)
- ❑ Task 2: Mission to the Dakar-Diamniadio area
 - 10 days spent on site with :
 - Visits of the highway and bus station of Colobane (component A), Keur Massar site of resettlement (component B), Pikine Irrégulier Sud (component C), center of Dakar
 - 2 days spent with :
 - The National Federation of Disabled People and local associations (Pikine) representing disabled people
- ❑ Task 3: Diagnosis of accessibility
- ❑ Task 4: Report elaboration and dissemination

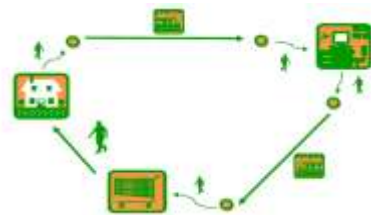
Stake holders cartography



The analysis of accessibility needs a global approach, both at geographical and functional level

The scope of the analysis

- ❑ The major issue regarding accessibility for disabled people is the trip chain and the interfaces between segments.
- ❑ The trip chain of a disabled person who travels within Dakar urban area is wider than the 3 components of the project DDTH.



- ❑ That is why we decided to perform first of all an assessment of the accessibility of the whole urban area of Dakar and then to focus on the components of the project (geographical zoom).
- ❑ We analyzed every item that has a potential impact on the quality of the travel:
 - Legal framework
 - Road and public transport Infrastructure
 - Rolling Stock and vehicles
 - Architecture and Buildings equipment
 - Services
 - Information
 - Social aspects (except financial accessibility and tariff issues).

Synopsis of the analysis

		Global analysis	DDTH project analysis		
			Component A	Component B	Component C
4 - Existing and under work infrastructures					
Road network	Vehicules ways Pedestrian ways Vehicule / pedestrian interface	1 - Law Legal framework Technical referentials Practices	Highway (with pedestrian cross over and services areas) Vehicule cross over and diffusion network	Transit Road (North/South en 2 x 2 lanes) Transit road Est/Ouest Local network Link road with N1	Existing networks Project networks
	Public facilities		Building Pedestrian / building interface		2 health centers 2 elementary schools; 1 secondary school; 1 large marketplace, 2 mosques and 1 socio-cultural center 1 multifunctional sports field.
Public transportation	Rolling stock Stops Traveller Information Other services	2 - Public transport network Taxi Rapid coach and Ndiaga Ndiaye DDK coaches Petit Train de Banlieue	Colobane Bus station Beaux Maraichers Bus station	Bus station Bus stops	
Social integration		3 - Disabled person within society Disabled representation Participation to socail life Valid persons sensibilization			

The accessibility grid : 86 items and objectives

Definition of accessibility criteria

- We used a grid based on 86 items, measuring accessibility :
 - All along the travel : for each type of segment or interface between segments
 - For all types of disability

- The accessibility baseline is defined by the :
 - Best practices standards or legal documents used in France for infrastructure and safety
 - For electromechanical devices and information systems the baseline is fixed on lower lever

	Mobilité			PRISE EN COMPTE DE L'ACCESSIBILITE
	Moteur	Handicap	Mixte	
BATIMENTS				
Codeur BSI				
Pré-donne de signalisation en relief	X	X	X	
Signalisation en relief	X	X	X	
Pré-donne de signalisation en relief	X	X	X	
Signalisation tactile en relief	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	
Appareils électroniques pour personnes handicapées	X	X	X	
Écran tactile	X	X	X	
Informateur piétonnage				
Pré-donne tactile	X	X	X	
Signalisation tactile	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	

	Mobilité			PRISE EN COMPTE DE L'ACCESSIBILITE
	Moteur	Handicap	Mixte	
TRANSPORTS COLLECTIFS				
Point d'arrêt				
Matérialisation pour personnes handicapées	X	X	X	
Matérialisation au sol	X	X	X	
Matérialisation au point d'arrêt	X	X	X	
Disponibilité de parking au point d'arrêt	X	X	X	
Superficie accessible au point d'arrêt	X	X	X	
Matérialisation au sol	X	X	X	
Abri	X	X	X	
Signal	X	X	X	
Éclairage	X	X	X	
Éclairage à l'arrêt	X	X	X	
Signalisation	X	X	X	
Signalisation tactile	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	
Informateur voyageurs				
Signalisation tactile	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	
Informateur voyageurs				
Signalisation tactile	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	

	Mobilité			PRISE EN COMPTE DE L'ACCESSIBILITE
	Moteur	Handicap	Mixte	
AUTOROUTE				
Espace véhicules				
Éclairage	X	X	X	
Signalisation	X	X	X	
Signalisation tactile	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	
Espace piétons (passage)				
Éclairage	X	X	X	
Signalisation	X	X	X	
Signalisation tactile	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	
Eclairage des véhicules				
Éclairage	X	X	X	
Signalisation	X	X	X	
Signalisation tactile	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	

	Mobilité			PRISE EN COMPTE DE L'ACCESSIBILITE
	Moteur	Handicap	Mixte	
VOIRIE				
Espace véhicules				
Éclairage	X	X	X	
Signalisation	X	X	X	
Signalisation tactile	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	
Espace piétons				
Éclairage	X	X	X	
Signalisation	X	X	X	
Signalisation tactile	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	
Eclairage des véhicules				
Éclairage	X	X	X	
Signalisation	X	X	X	
Signalisation tactile	X	X	X	
Signalisation tactile adaptée au handicap visuel	X	X	X	
Signalisation tactile adaptée au handicap auditif	X	X	X	
Signalisation tactile adaptée au handicap mental	X	X	X	

The assessment

Definition of accessibility criteria

- Every component of the project was analyzed, either on site or on plan, and marked on a scale from 0 to 2 .

Diagnostic sur Plan	Diagnostic sur terrain	COMPOSANTE	CATEGORIE	SOUS COMPOSANTE DIAGNOSTIQUEE	Cadre bât												Total / N	NOTE GLOBALE SUR 10					
					Cheminements				Signalétique				Equipements du						Interface piétons/cadre bât				
					Pente douce de circulation en intérieur	Rampe d'accès continue en intérieur	Pailiers de repos en intérieur	Absence d'obstacles à la circulation en intérieur	Signalétique intérieure adaptée au handicap visuel	Signalétique intérieure adaptée au handicap auditif	Signalétique intérieure adaptée au handicap mental	Espace suffisant	Appareils réservés aux personnes handicapées	Ergonomie des appareils	Pente douce d'accès extérieur	Rampe d'accès continue en extérieur			Pailiers de repos extérieur	Absence d'obstacles à l'accès extérieur	Signalétique extérieure adaptée au handicap visuel	Signalétique extérieure adaptée au handicap auditif	Signalétique extérieure adaptée au handicap mental
●	●	B	Bâtiment public	Ecole secondaire	0	0	0	1	0	0	0	2	0	0	2	2	2	1	0	0	0	10	3
●	●	B	Bâtiment public	Deux écoles primaires	0	0	0	1	0	0	0	2	0	0	2	2	2	1	0	0	0	10	3
●	●	B	Bâtiment public	Deux postes de santé	0	0	0	1	0	0	0	1	0	0	2	2	2	1	0	0	0	10	3
●	●	B	Bâtiment public	Marché public	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	10	3
●	●	B	Bâtiment public	Terrain multifonctionnel	2	2	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	10	3
●	●	B	Bâtiment public	Deux mosquées	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	10	3
●	●	B	Bâtiment public	Centre Socio-collectif	0	0	0	1	0	0	0	1	0	0	2	2	2	1	0	0	0	10	3
					Composante du projet DOTH												Sous composante	Source utilisée pour l'analyse	Prise en compte des besoins de mobilité des personnes				
					Loi et réglementation												Cadres législatif et normatif	Analyse bibliographique	2				
					Loi et réglementation												Référentiels techniques	Analyse bibliographique	0				
					Loi et réglementation												Pratiques	Analyse bibliographique	1				
					Transports collectifs												Les taxis	Observations sur le terrain	2				
					Transports collectifs												Les cars rapides et les Ndaga Ndaye	Observations sur le terrain	0				
					Transports collectifs												Les autocars de la compagnie DDK	Observations sur le terrain	1				
					Transports collectifs												Le Petit Train de Banlieue	Observations sur le terrain	1				
					Analyse globale												Représentation des handicaps	Rencontres des associations sur le terrain	2				
					Composante A - autoroute												Autoroute (dont passerelles et aires)	Rap_fina1_NOV 2005 - Tome I.pdf + Rap_fina1_NOV 2005 - Tome II.pdf	1				
					Composante A - autoroute												Franchissements et voiries connexes	11 Document de projet 170608.pdf	1				
					Composante A - autoroute												Gare routière de Colobane	Observations sur le terrain	1				
					Composante B - Zone de Réinstallation												Atrière de transit Nord/Sud en 2 x 2 voies	B.S.S-Profiles en travers types et coordination.pdf	1				
					Composante B - Zone de Réinstallation												Atrière de transit Est/Ouest	B.S.S-Profiles en travers types et coordination.pdf	1				
					Composante B - Zone de Réinstallation												Atrière commerciale	B.S.S-Profiles en travers types et coordination.pdf	1				
					Composante B - Zone de Réinstallation												Rue collective	B.S.S-Profiles en travers types et coordination.pdf	1				
					Composante B - Zone de Réinstallation												Rue locale	Rapport de présentation.pdf	0				
					Composante B - Zone de Réinstallation												Rue d'amenée	Pas de plan détaillé disponible (sélection du candidat en cours)	nd				
					Composante B - Zone de Réinstallation												Ecole secondaire	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	1				
					Composante B - Zone de Réinstallation												Deux écoles primaires	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	1				
					Composante B - Zone de Réinstallation												Deux postes de santé	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	1				
					Composante B - Zone de Réinstallation												Marché public	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	0				
					Composante B - Zone de Réinstallation												Terrain multifonctionnel	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	0				
					Composante B - Zone de Réinstallation												Deux mosquées	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	0				
					Composante B - Zone de Réinstallation												Centre Socio-collectif	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	0				
					Composante B - Zone de Réinstallation												Points d'arrêt	Pas de plan détaillé disponible (aucune desserte de la ZR n'est prévue à ce jour)	nd				
					Composante C - Restructuration de Pikine Irrégulier Sud												Réseau primaire existant	Observations sur le terrain	nd				
					Composante C - Restructuration de Pikine Irrégulier Sud												Réseau secondaire existant	Observations sur le terrain	nd				
					Composante C - Restructuration de Pikine Irrégulier Sud												Réseau tertiaire structurant existant	Observations sur le terrain	nd				
					Composante C - Restructuration de Pikine Irrégulier Sud												Réseau primaire retenu pour le projet	11 Document de projet 170608.pdf	1				
					Composante C - Restructuration de Pikine Irrégulier Sud												Réseau secondaire retenu pour le projet	11 Document de projet 170608.pdf	1				
					Composante C - Restructuration de Pikine Irrégulier Sud												Réseau tertiaire structurant retenu pour le projet	11 Document de projet 170608.pdf	1				
					Composante C - Restructuration de Pikine Irrégulier Sud												Equipements structurants du pôle de Seven Up	Pas de plan détaillé disponible (sélection du candidat en cours pour études/can	nd				
					Composante C - Restructuration de Pikine Irrégulier Sud												Equipements structurants du pôle de Waranka	Pas de plan détaillé disponible (sélection du candidat en cours pour études/can	nd				
					Composante C - Restructuration de Pikine Irrégulier Sud												Equipements éducatifs de proximité	Pas de plan détaillé disponible (sélection du candidat en cours pour études/can	nd				
					Composante C - Restructuration de Pikine Irrégulier Sud												Gare routière des Baux Maralchers	Observations sur le terrain	1				

- A synthesis was elaborated, based on the collected information and analyses performed

Agenda

- A. Project Objectives
- B. Methodology used
- C. Diagnosis of accessibility on the DDTH project**
- D. Recommendations

1 – Legal and practices analysis

Legal framework

- The « loi d'orientation sociale relative à la promotion et à la protection des personnes handicapées » was adopted in october 2010. It is founded on the UNO Convention.




Chapter IV stipulates that buildings, roads and services have to be adapted to disabled people in respect to international standards.

- The law remains general and it needs to be completed by applied decrees. Those decrees are still not passed.

Technical frame of reference

- The construction code defines some technical obligations on buildings.
- But, **there is no legal frame of reference applicable** to public transports and transport infrastructures.

Synthesis

Composante du projet DDTH	Sous composante	Source utilisée pour l'analyse	Prise en compte des besoins de mobilité des personnes	
Loi et réglementation	Cadres législatif et normatif	Analyse bibliographique		2
Loi et réglementation	Référentiels techniques	Analyse bibliographique		0
Loi et réglementation	Pratiques	Analyse bibliographique		1

Practices

- Owners are able to implement technical frame of reference in there projects.
- The overall cost of accessibility is not of major impact when added at the design phase.
- But in the lack of technical guides, technicians often do not know how to design accessibility features.

2 – Disabled people within society

Number of disabled people in Senegal

- The « Direction de l'Action Sociale » estimates at around 10% the number of disabled people within society for 1996, of which :
 - 33% of physical disability
 - 17% of visual disability
 - 50% of other disability

Representation of disabled people

- We were able to identify and meet several associations, representing disabled people.
- The needs expressed are quite similar to those of the northern countries.


Level of Public awareness

- People without disabilities are not fully aware for the difficulties that can present disabilities.
- As a consequence, trips can appear a lot more complicated in Senegal in comparison to northern countries.

For instance :

 - Sidewalks occupied by vendors
 - Lack of services in the administrative buildings
 - Difficulties to access to Public Transports

Synthesis

Composante du projet DDTH	Sous composante	Source utilisée pour l'analyse	Prise en compte des besoins de mobilité des personnes
Analyse globale	Représentation des handicapés	Rencontres des associations sur le terrain	 2

3 – Public transport network

Organization of PT in Dakar area

- ❑ The public transport in Dakar area is organized by the CETUD (Executive Committee for Urban Transports in Dakar).
- ❑ The services that are provided are :
 - Taxis and Clandos
 - Rapid buses and Ndiaga Ndiaye (AFTU)
 - Dakar Dem Dikk buses
 - Le Petit Train de Banlieue

Vehicles accessibility

- ❑ Taxis and Clandos are normal vehicles, thus accessible but expensive.
- ❑ Rapid buses, Ndiaga Ndiaye and DDK buses are not accessible. The new vehicles bought by AFTU are better, but they still lack access ramp, wide doors and reserved seats.
- ❑ No vehicles are accessible from the bus stops for physically disabled people.



The new AFTU buses are without ramp and the door is not enough large



Ndiaga Ndiaye rear step is too high

3 – Public transport network

Bus stop accessibility

- Bus stops are usually not accessible
- Bus stops prevent physically disabled people from walking along the sidewalks
- Bus stations are not accessible

Travel information

- No available travel information

Petit train de banlieue

- Stations and rolling stock are not accessible
- No available travel information

Specialized transport

- To our knowledge, no specialized transport services are provided by associations in the Dakar area

Synthesis

Composante du projet DDTH	Sous composante	Source utilisée pour l'analyse	Prise en compte des besoins de mobilité des personnes	
Transports collectifs	Les taxis	Observations sur le terrain	✓	2
Transports collectifs	Les cars rapides et les Ndiaga Ndiaye	Observations sur le terrain	✗	0
Transports collectifs	Les autocars de la compagnie DDK	Observations sur le terrain	⚠	1
Transports collectifs	Le Petit Train de Banlieue	Observations sur le terrain	⚠	1



Bus stops are not built for disabled



Bus station building is not accessible

4 – DDTH Project / Component A : Toll Highway

Highway and service areas

- ❑ The highway on itself does not have to be accessible.
- ❑ The service areas have not been designed yet and should be done under PPP. Requirements for equipments accessibility should be used.

Footbridges and diffusion network

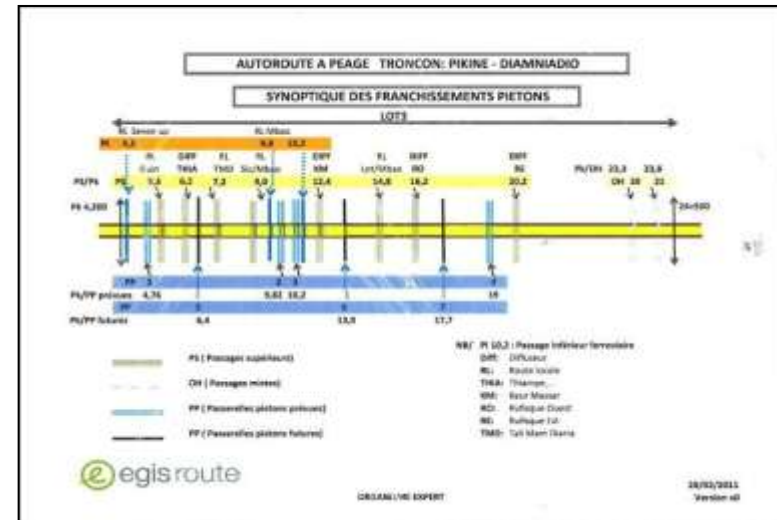
- ❑ There are 7 footbridges planned on the Pikine-Diamniadio segment (of which 4 are already finished).
- ❑ An effort has been done toward disabled, through access ramps. Nevertheless, they do not meet international requirements (slope > 5%, no resting zone). Visual and other disabilities are not considered.
- ❑ Sidewalks are accessible (width > 2 m), but they lack safety equipment at crossings.
- ❑ The distance between footbridges is approximately 700 m, in the urban area (Pikine).



Footbridge with stairs



Footbridge with a ramp (strong slope and absence of resting zone)






Footbridge synopsis

4 – DDTH Project / Component A : Toll Highway

Adding more / modifying footbridges

- Adding more footbridges would be beneficial for disabled people.
- However, their cost is very high because of safety constraints.
- No possibility of underground passage because there is an important level of underground water, in addition during the rain season there is a risk of floods
- The only possible improvement is to consider equipments for visual disabled.

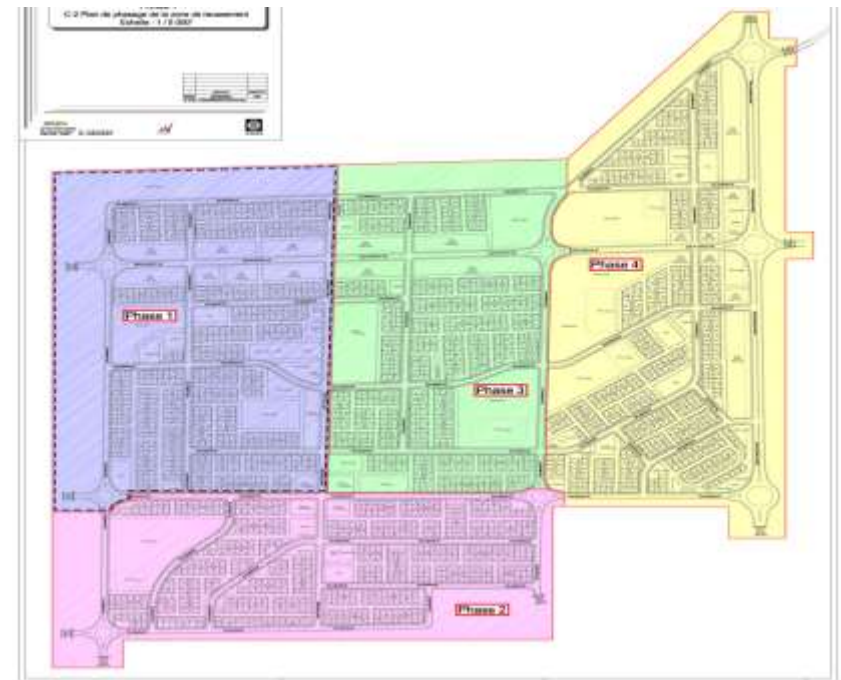
Synthesis

Composante du projet DDTH	Sous composante	Source utilisée pour l'analyse	Prise en compte des besoins de mobilité des personnes
Composante A - autoroute	Autoroute (dont passerelles et aires)	Rap_final_NOV 2005 - Tome I.pdf + Rap_final_NOV	 1
Composante A - autoroute	Franchissements et voiries connexes	11 Document de projet 170608.pdf	 1
Composante A - autoroute	Gare routière de Colobane	Observations sur le terrain	 1

4 – DDTH Project / Component B : Tivaouane Peuhl resettlement zone

Scope of the work

- ❑ The resettlement zone consists in building a 165 ha new city at about 30 km from Pikine in order to house the PAP.
- ❑ AGETIP will deliver the road network and public facilities:
 - 2 health centers
 - 2 elementary schools
 - 1 secondary school
 - 1 large marketplace
 - 2 mosques and 1 socio-cultural center
 - 1 multifunctional sports field
- ❑ Other facilities will be built by owners : post office, ...
- ❑ Public transport network will be developed by CETUD: bus lines and stops, bus station.
- ❑ The diagnosis has been done using Agetip design.



Resettlement zone master plan

4 – DDTH Project / Component B : Tivaouane Peuhl resettlement zone

Road network

- ❑ The accessibility of the secondary road network within the RZ is good. Sidewalks are large enough, crossings will be materialized and lightening is designed.
- ❑ Some improvements would be:
 - Insure lower sidewalks for the crossings
 - Take into account other disabilities (visual, audio, ...)
 - Put some barriers for safety reasons and against illegal car parking
- ❑ Local roads are not accessible (laterite, and no pedestrian ways).
- ❑ Special caution will be needed in order to **maintain an « operational accessibility »**.

Link road

- ❑ The link road is of high importance for the RZ. Two threats can be foreseen, that could affect considerably disabled people in their journey to Dakar/Pikine) :
 - Delay in schedule
 - Congestion, because of high level of traffic (multiple trucks transporting sand)



Link road schema

4 – DDTH Project / Component B : Tivaouane Peuhl resettlement zone

Public transport

- As in many projects, public transport is not forecasted :
 - Bus lines
 - Bus station
 - Location of bus stops

- This could have some undesirable consequences on disabled mobility. We would highly recommend that means of transport for disabled people are designed, before their arrival at the RZ.

Public facilities

- Buildings accessibility is globally good for physical disability : toilets and entrance are designed for wheel chair.

- Nevertheless, other disabilities are not considered.

- Another problem to be faced is the lack of services and activities in the RZ, when PAP arrive (2012)

Synthesis

Composante du projet DDTH	Sous composante	Source utilisée pour l'analyse	Prise en compte des besoins de mobilité des personnes
Composante B - Zone de Réin	Artère de transit Nord/Sud en 2 x 2 voies	B.5.5-Profiles en travers types et coordination.pdf	1
Composante B - Zone de Réin	Artère de transit Est/Ouest	B.5.5-Profiles en travers types et coordination.pdf	1
Composante B - Zone de Réin	Artère commerciale	B.5.5-Profiles en travers types et coordination.pdf	1
Composante B - Zone de Réin	Rue collectrice	B.5.5-Profiles en travers types et coordination.pdf	1
Composante B - Zone de Réin	Rue locale	Rapport de présentation.pdf	0
Composante B - Zone de Réin	Route d'aménée	Pas de plan détaillé disponible (sélection du candidat en cours)	nd
Composante B - Zone de Réin	Ecole secondaire	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	1
Composante B - Zone de Réin	Deux écoles primaires	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	1
Composante B - Zone de Réin	Deux postes de santé	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	1
Composante B - Zone de Réin	Marché public	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	0
Composante B - Zone de Réin	Terrain multifonctionnel	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	1
Composante B - Zone de Réin	Deux mosquées	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	0
Composante B - Zone de Réin	Centre Socio-collectif	APD AUTOROUTE A PEAGE DAKAR-DIAMNIADIO.pdf	1
Composante B - Zone de Réin	Points d'arrêt	Pas de plan détaillé disponible (aucune desserte de la ZR n'est prévue à ce jour)	nd

4 – DDTH Project / Component C : PIS restructuring

Road network

- The analysis of the road network were performed in PIS. Nevertheless, they are valid for the other parts of the Dakar's agglomeration. The following observations were done :
- The road network accessibility for disabled people is in very bad state. The sidewalks are not always planned under the project of development of road network
 - Because of the absence of a technical guidelines (frame reference), the sidewalks are not always developed so that they serve disabled people
 - The maintenance of the sidewalks is not in the priorities of the managers of the road network
 - The sidewalks are used as parking areas for the vehicles
 - Despite instructions, some vendors continue to sell on the streets
 - There are serious security problems because the road is used by all kind of passengers (cars, bicycles, pedestrians and others)
 - The secondary roads that will be part of the projects are congested and in bad state
 - Road signs are often inexistent or not renewed (street lights, street marks..)



Posts in the middle of the road



Obstacles on the secondary roads



Road in very bad state



No street marks on RN1

4 – DDTH Project / Component C : PIS restructuring

Public Facilities

- ❑ The assessment of building accessibility was not possible due to the absence of detailed plans.
- ❑ Under the project , the construction of the following buildings is planned :
 - A) Structured facilities in the following 2 zones :

<p>Zone of Waranka :</p> <ul style="list-style-type: none"> • New market of Waranka • Craft Market • Library • Bus station • Shopping center 	<p>Zone of Seven Up :</p> <ul style="list-style-type: none"> • Multicultural center • Primary school • Center for modern studies • Sport center
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 - B) Close educational buildings
 - 6 primary schools
 - 3 educational centers

Public transport

- ❑ The Bus station of Baux Maraichers presents two points of particular attention :
 - The bus station does not include any disabled issues in its initial plan (transfers, travel information, ...)
 - The bus station is not completely finished because of lack of resources and does not operate. However, another bus station is planned under Component B of the project DDTH in Keur Massar that is funded by CETUD.
- ❑ As regards to the bus stops, their location and design has not been done yet. Thus, diagnosis were not performed.










Non accessible footbridge



The exit of the bus station

4 – DDTH Project / Component C : PIS restructuration

Synthesis

Composante du projet DDTH	Sous composante	Source utilisée pour l'analyse	Prise en compte des besoins de mobilité des personnes
Composante C - Restructuration de PIS	Réseau primaire existant	Observations sur le terrain	 0
Composante C - Restructuration de PIS	Réseau secondaire existant	Observations sur le terrain	 0
Composante C - Restructuration de PIS	Réseau tertiaire structurant existant	Observations sur le terrain	 0
Composante C - Restructuration de PIS	Réseau primaire retenu pour le projet	11 Document de projet 170608.pdf	 1
Composante C - Restructuration de PIS	Réseau secondaire retenu pour le projet	11 Document de projet 170608.pdf	 1
Composante C - Restructuration de PIS	Réseau tertiaire structurant retenu pour le projet	11 Document de projet 170608.pdf	 1
Composante C - Restructuration de PIS	Equipements structurants du pôle de Seven Up	Pas de plan détaillé disponible (sélection du candidat en cours pour études/conception)	nd
Composante C - Restructuration de PIS	Equipements structurants du pôle de Waranka	Pas de plan détaillé disponible (sélection du candidat en cours pour études/conception)	nd
Composante C - Restructuration de PIS	Equipements éducatifs de proximité	Pas de plan détaillé disponible (sélection du candidat en cours pour études/conception)	nd
Composante C - Restructuration de PIS	Gare routière des Baux Maraichers	Observations sur le terrain	 1

Agenda

- A. Project Objectives
- B. Methodology used
- C. Diagnosis of accessibility on the DDTH project
- D. Recommendations**

Recommendations (1/4)

Recommendations		In charge of the implementation	Level of difficulty	
N°	Title		Operational	Financial
Legal framework				
1	Senegal shall adopt in a short term decrees describing the technical specificities of buildings, linear infrastructure and rolling stock (frame of reference)	Government of Senegal	Yellow	Green
Public transport services				
2	Facilitate the physical access to the transport network by indicating stops with accessible vehicles	AGEROUTE + ADM + CETUD	Red	Red
3	Facilitate the use of public transport services by providing a reliable and comprehensible travel information	CETUD	Yellow	Green
4	Encourage the use of public transport services by disabled people by applying appropriate rates	CETUD + National Solidarity Fund	Green	Red
Disabled person within society				
5	Make the most of the feedback provided by associations representing disabled people	DGCBEP + DIR + AGEROUTE + AGETIP	Green	Green
6	Help disabled people to integrate into society	National Solidarity Fund (under the Ministry of Solidarity)	Yellow	Yellow
7	Launch a communication campaign in order to increase public awareness on the challenges that represent integration of disabled people into society	PMR Association + Government	Green	Yellow

Example of french technical guides



Recommendations (2/4)

Recommandations		In charge of the implementation	Level of difficulty	
N°	Title		Operational	Financial
DDTH Project – General recommendations				
8	Increase awareness and provide training on accessibility issues for people concerned	PMR Association + Gouvernement		
9	Bring into general use the integration of the technical guidelines into all tenders	DGCBEP + DIR + AGEROUTE + AGETIP		
10	Develop a charter of all actors into a project and their roles as well as the important interactions	???		
11	Enforce the respect of the public space	CETUD + Communes + Regional Commission for Circulation		
12	Rethink the parking policy	CETUD + Communes + Regional Commission for Circulation		
13	Maintain the infrastructure in a regular manner	AGETIP + AGEROUTE + ADM + CETUD		
DDTH Project – Component A : Toll Highway				
14	Put the footbridges into the accessibility standards	APIX + SENAC		
15	Decrease the distances between two crossing zones	APIX + SENAC		
16	Complete the bus station of Colobane : integrate into the projects the necessary improvements that facilitate its use by all kind of people	APIX + CETUD		
17	Integrate the accessibility guidelines into the tenders for the future service area	APIX		

Technical specification for ramp

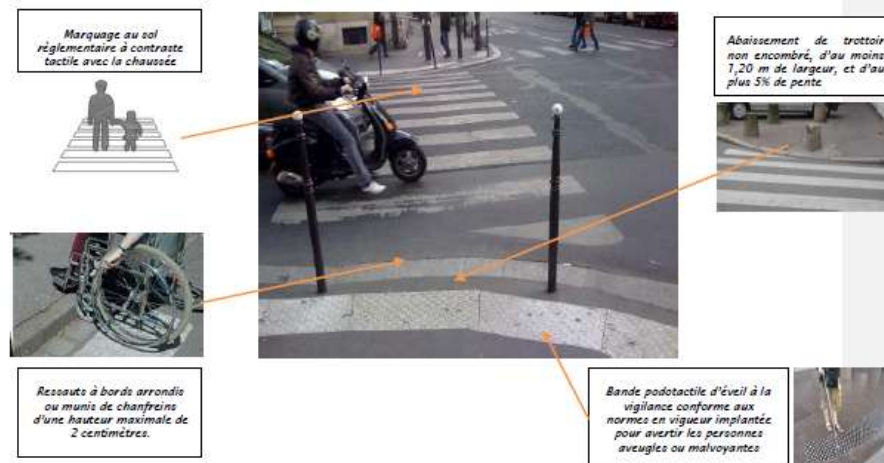


Exemple de rampe entre 4 et 5% avec palier de zones horizontal

Recommendations (3/4)

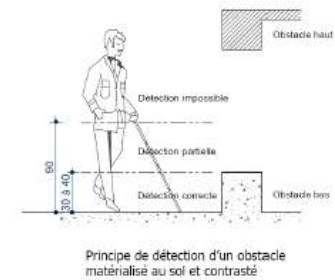
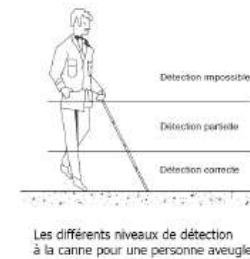
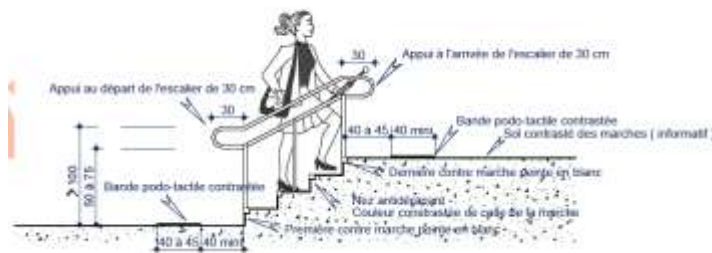
Recommendations		In charge of implementation	Level of difficulty	
N°	Title		Operational	Financial
DDTH Project - Component B : Tivaouane Peulh Resettlement Zone, a pilot for accessibility in Subsaharian Africa				
18	Fund accessible minibuses and entrust an association representing disabled people with the implementation of a specialised transport service	APIX + CETUD + SENAC	Green	Yellow
19	Build a temporary bus station that is accessible at the entrance of the zone of resettlement	APIX + CETUD + AGEROUTE	Yellow	Red
20	Ensure the coordination between the installation of the population in the zone and the launch of the link road	APIX + CETUD + AGEROUTE	Green	Green
21	Facilitate the free flow of traffic on section RN1 that is situated between Keur Massar and the interchange of the future highway	CETUD + Communes + Regional Commission for Circulation	Yellow	Red
22	Construct a road network accessible to people with all types of disabilities, by using established standards	APIX + CETUD + AGEROUTE	Yellow	Red
23	Construct sidewalks in order to facilitate the pedestrians	APIX + CETUD	Green	Yellow

Technical specification for sidewalks



Recommendations (4/4)

Recommendations		In charge of the implementation	Level of difficulty	
N°	Title		Operational	Financial
DDTH Project – Component C : PIS restructuration				
24	Complete the bus station Baux Maraichers : Financial aspects + facilities making it accessible for everybody	APIX + CETUD		
25	Create a Technical Committee dedicated to the accessibility issues	APIX		
26	Encourage the interaction with associations and continue the cooperation	APIX + DAS		



Technical specification for sidewalks

Thank you for your attention !

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