



2ND ROAD SAFETY WORKSHOP

16-18 August 2016 • Kuala Lumpur, Malaysia

2-й Семинар по безопасности дорожного движения

16-18 августа 2016 года • Куала-Лумпур, Малайзия

Setting Targets for the CAREC Road Safety Strategy

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The need for targets

- Road accidents are ranked 8th as the leading cause of death globally
- Ranked 6th in the Central Asia region
- 2020 goal set for the UN Decade of Action for Road Safety is to ‘stabilise and reduce’ road deaths
- Sustainable Development Goal 3 contains target 3.6
“By 2020, halve the number of global deaths and injuries from road traffic accidents”



Why Set Targets?

They provide the focus for the road safety strategy

Research and experience in the EU demonstrates that long-term goals and targets provide:

- Increased political will and stakeholder accountability
- Better management of strategies and programs
- Improved quality of safety programs
- Better safety performance especially when targets are ambitious
- Improved use of public resources
- Increased motivation of stakeholders





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GLOBAL ROAD FATALITY TARGETS

2020
SDG TARGET <600,000

2020
DECADE OF ACTION TARGET <1,000,000

2010
BASELINE >1,200,000





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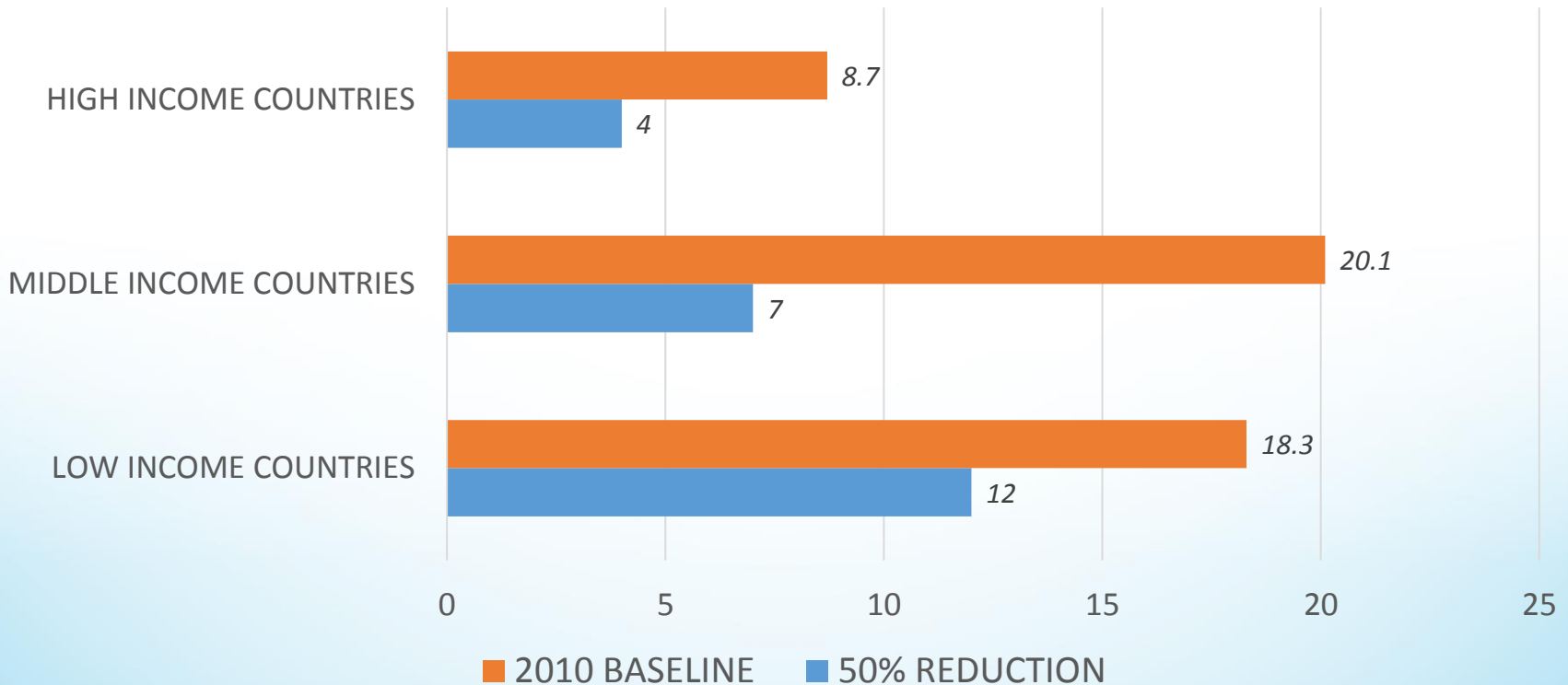
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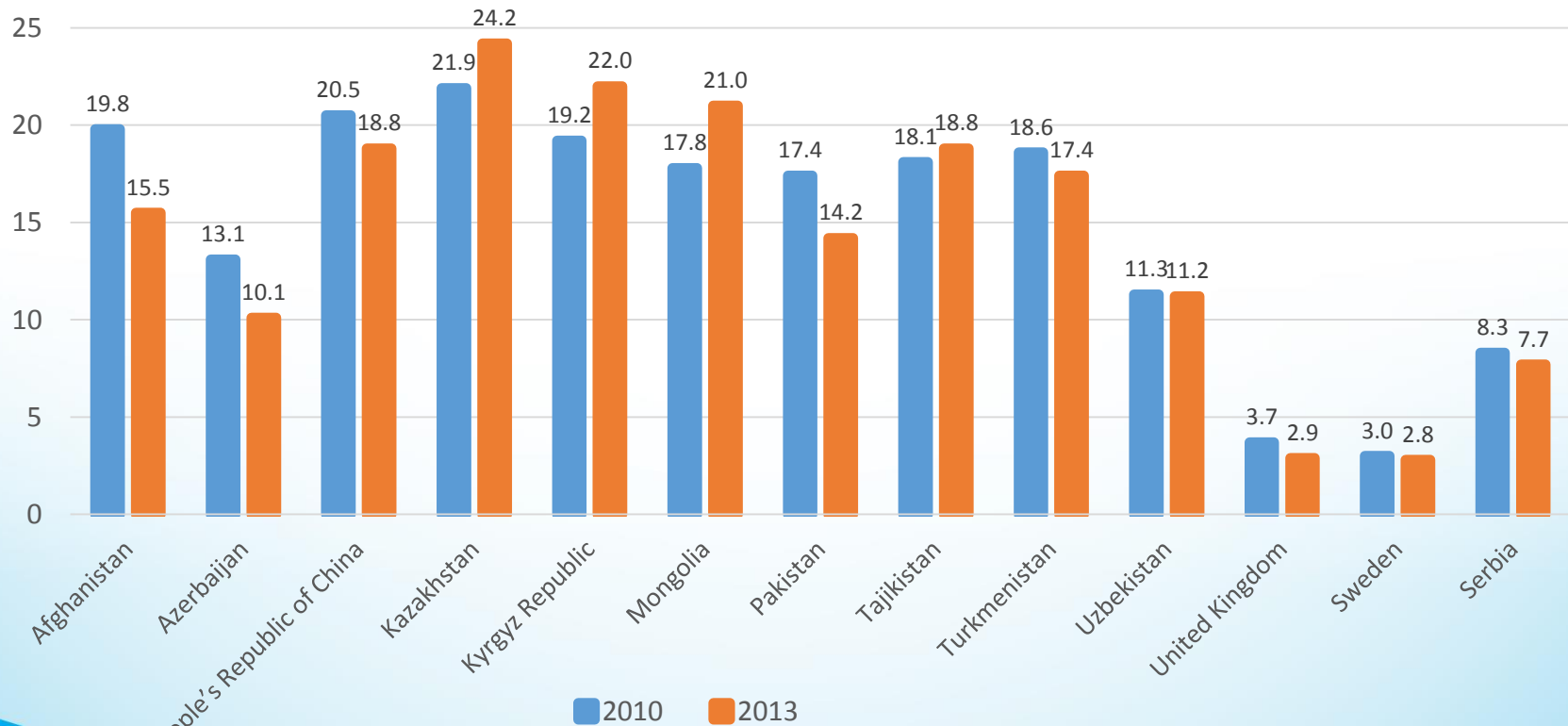
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Global fatalities per 100,000 population



Estimated road traffic death rate per 100,000 population in CAREC countries, United Kingdom, Sweden and Serbia 2010 and 2013 (WHO)



Source: Global Status Report on Road Safety 2013 and 2015, Geneva, World Health Organisation



Exploring targets

- The International Road assessment Program (iRAP) have developed a tool to assist in setting targets
- Use the iRAP tool explore possible targets and benefits (lives and \$\$\$ saved)



About iRAP

- iRAP star ratings – methodology for assessing the safety of roads
- Risk of death or injury is highest on a one star road (least safe) and lowest on a five star road (most safe)
- iRAP star ratings are used to guide investment



About iRAP

- It has been suggested by development organizations that:
 - All road designs should have minimum 3 star rating for all road users, and should have higher rating than the existing road
 - Minimum 4 stars for roads with more than 50,000 vehicles per day
 - Roads passing through linear settlements should have minimum 4 stars for pedestrians and cyclists



How the iRAP tool works

- The tool uses:
 - WHO death and injury data – baseline 2010
 - GDP information
 - iRAP star ratings



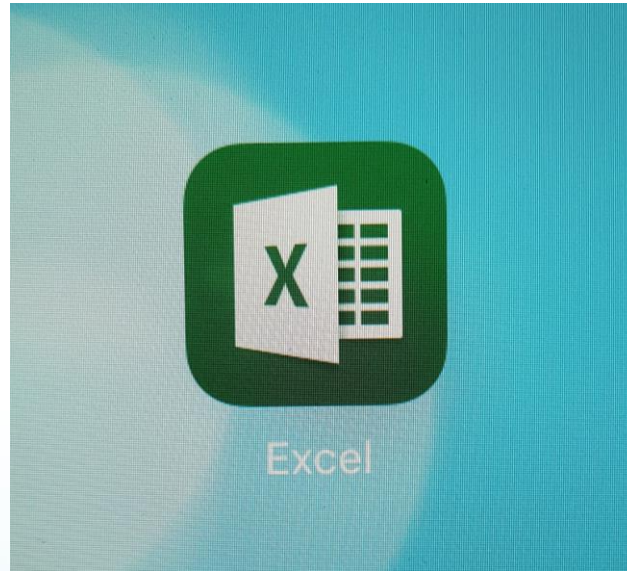


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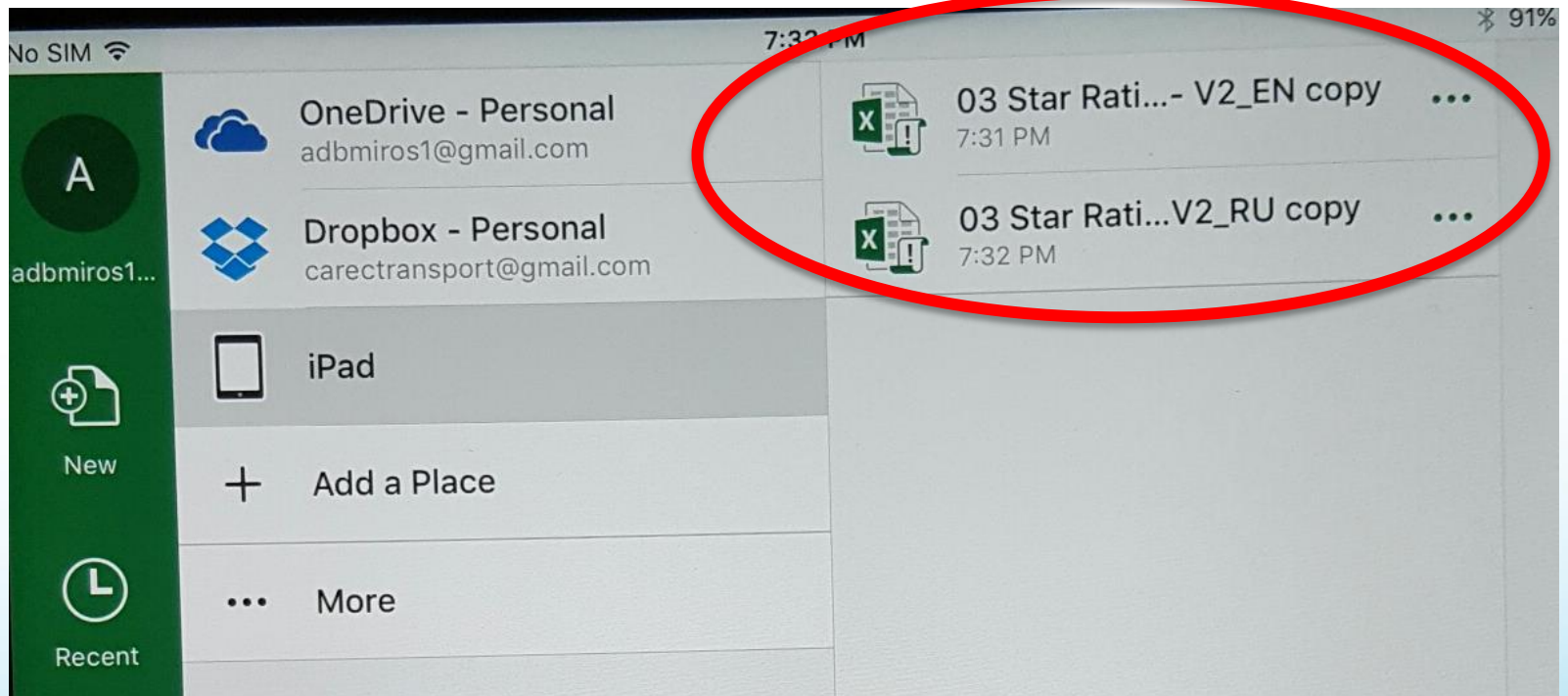


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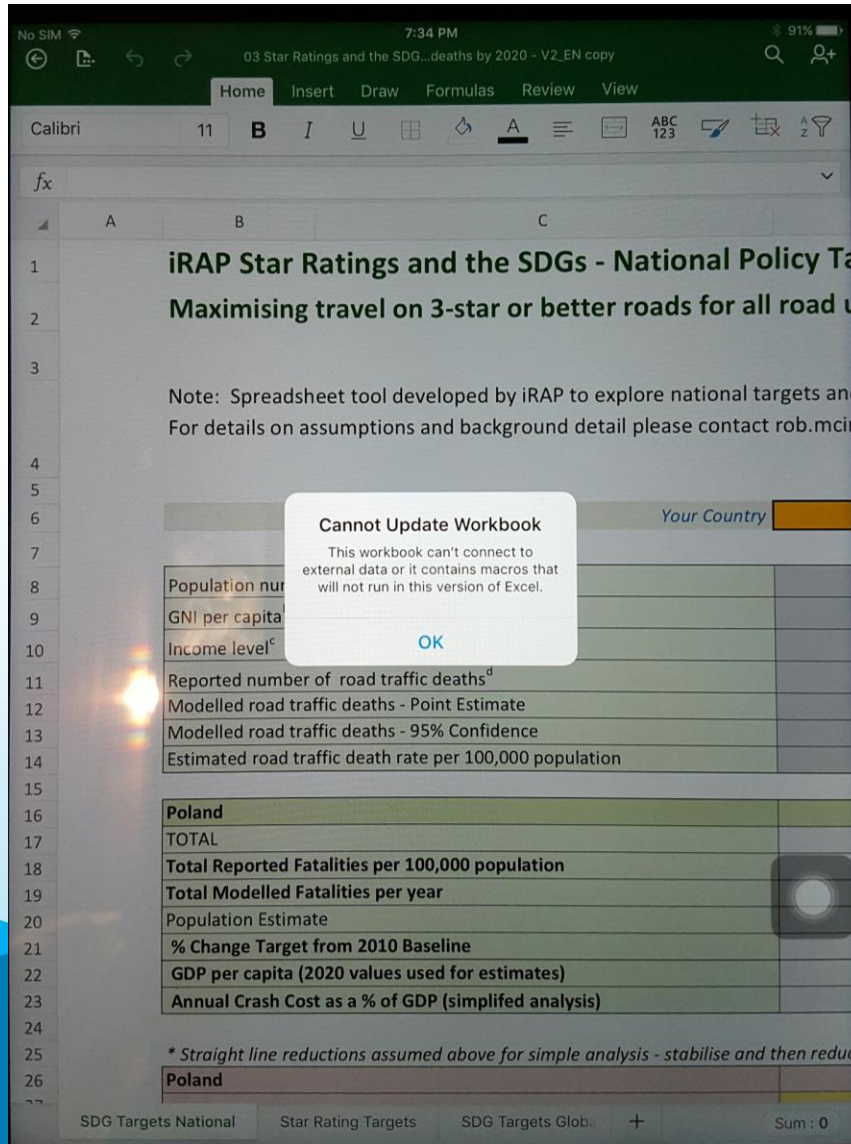


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The screenshot shows an Excel spreadsheet titled "iRAP Star Ratings and the SDGs - National Policy Target". The spreadsheet is displayed on a mobile device with a status bar at the top showing "No SIM", "7:34 PM", and "91%". The spreadsheet interface includes a ribbon with "Home", "Insert", "Draw", "Formulas", "Review", and "View" tabs. The font is set to "Calibri" and the size is "11". The spreadsheet content includes a title, a note, a "Your Country" dropdown menu, and a table of road traffic statistics for Poland. A "Cannot Update Workbook" error message is overlaid on the spreadsheet, stating: "This workbook can't connect to external data or it contains macros that will not run in this version of Excel." The "OK" button in the error message is circled in red.

iRAP Star Ratings and the SDGs - National Policy Target
Maximising travel on 3-star or better roads for all road users

Note: Spreadsheet tool developed by iRAP to explore national targets and...
For details on assumptions and background detail please contact rob.mc...

Your Country

Population number	
GNI per capita	
Income level ^c	
Reported number of road traffic deaths ^d	
Modelled road traffic deaths - Point Estimate	
Modelled road traffic deaths - 95% Confidence	
Estimated road traffic death rate per 100,000 population	

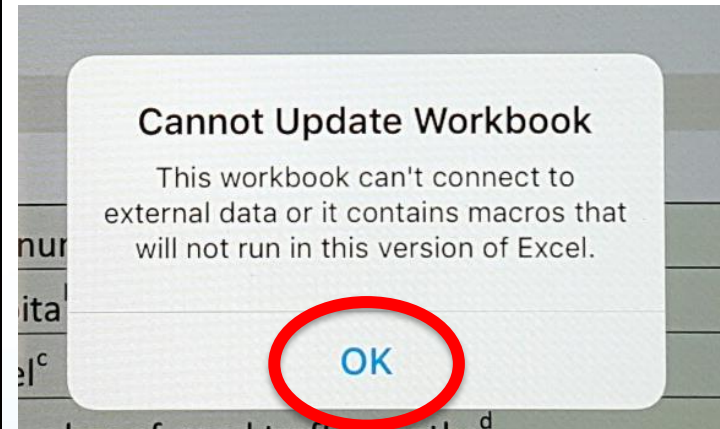
Poland

TOTAL	
Total Reported Fatalities per 100,000 population	
Total Modelled Fatalities per year	
Population Estimate	
% Change Target from 2010 Baseline	
GDP per capita (2020 values used for estimates)	
Annual Crash Cost as a % of GDP (simplified analysis)	

* Straight line reductions assumed above for simple analysis - stabilise and then reduce

Poland

SDG Targets National | Star Rating Targets | SDG Targets Glob. | + | Sum : 0



Cannot Update Workbook

This workbook can't connect to external data or it contains macros that will not run in this version of Excel.

OK



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Alignment Number Styles Cells Editing

D E F G H I J K L M N O

Policy Targets to halve road deaths by 2020 for all road users



International Road Assessment Programme

Policy targets and the % of travel of 3-star or better roads needed to reach the SDG targets in your country. Contact rob.mcinerney@irap.org.

Poland

Select your country
Based on WHO Global Status Report the 2010 baseline for your country will be populated

38,27
12,
Hi
3,9
4,5
11.8

Fatalities per 100,000 Population		
2010	2020	2030
11.8	5	10
4,509	1,990	4,096
38,276,660	39,807,700	40,956,000
	56%	9%

STEP 1
Using the drop down box to select your country of interest

↓

STEP 2
Enter your target for your country by updating the reported fatalities per 100,000 population in the orange cells for both 2020 and 2030



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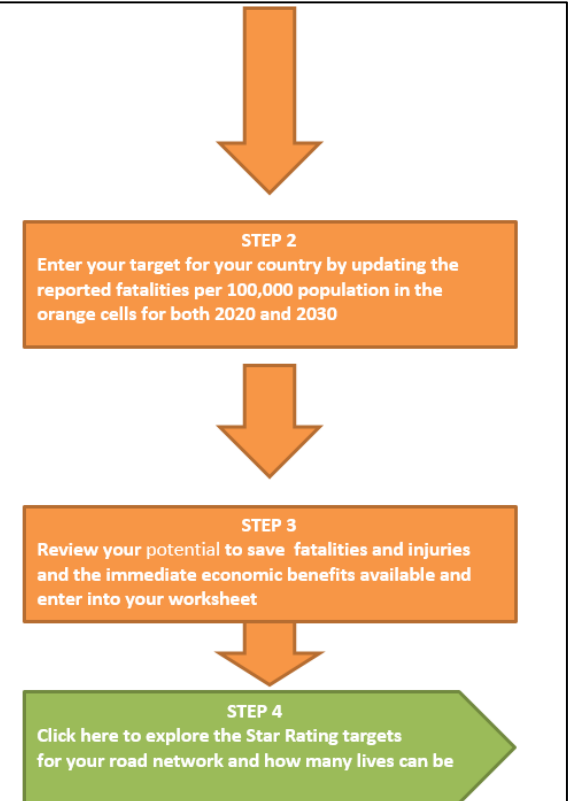
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		12,450	
		High	
		3,907	
		4,509	
		11.8	
Fatalities per 100,000 Population			
	2010	2020	2030
	11.8	5	10
	4,509	1,990	4,096
	38,276,660	39,807,700	40,956,000
		56%	9%
		14,669	
	4.2%	1.8%	3.6%

Realise and then reduce is expected in reality

LIVES IMPACTED: Fatalities and Injuries avoided compared to WHO Projections					
10 year period to 2020			20 year period to 2030		
Fatalities saved	Fatalities & Serious Injuries Saved	Fatalities & All Injuries Saved	Fatalities saved	Fatalities & Serious Injuries Saved	Fatalities & All Injuries Saved
12,593	138,520	406,130	2,067.00	23,000	67,000
57,034,898,724			9,432,564,638		



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Population numbers for 2010		38,276,660				
GNI per capita ^b for 2010 in US dollars		12,450				
Income level ^c		High				
Reported number of road traffic deaths ^d		3,907				
Modelled road traffic deaths - Point Estimate		4,509				
Modelled road traffic deaths - 95% Confidence						
Estimated road traffic death rate per 100,000 population		11.8				
Poland		Fatalities per 100,000 Population				
TOTAL	2010	2020	2030			
Total Reported Fatalities per 100,000 population	11.8	5	10			
Total Modelled Fatalities per year	4,509	1,990	4,096			
Population Estimate	38,276,660	39,807,700	40,956,000			
% Change Target from 2010 Baseline		56%	9%			
GDP per capita (2020 values used for estimates)		14,669				
Annual Crash Cost as a % of GDP (simplified analysis)	4.2%	1.8%				
<i>* Straight line reductions assumed above for simple analysis - stabilise and then reduce is expected in reality</i>						
Poland		LIVES IMPACTED: Fatalities and Injuries avoided compared to WHO Projections				
		10 year period to 2020		20 year period to 2030		
Country	Fatalities saved	Fatalities & Serious Injuries Saved	Fatalities & All Injuries Saved	Fatalities saved	Fatalities & Serious Injuries Saved	Fatalities & All Injuries Saved
Reduction	12,593	138,520	406,130	2,067.00	23,000	67,000
Economic Benefits	57,034,898,724			9,432,564,638		
Simplified Calculations						



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Simulated Calculations


Poland	Targets		
	2010	2020	2030
Fatalities	4,509	1,990	4,096
Fatalities and Serious Injuries	49,599	21,894	45,052
Fatalities and All Injuries	145,415	64,190	132,083
Population	38,276,660	39,807,700	40,956,000
Fatalities per 100,000 population	11.78	5.00	10.00
Fatalities and Serious Injuries per 100,000 population	130	55	110
Fatalities and Injuries per 100,000 population	380	161	322
Annual Cost of road trauma	\$23,762,044,694	\$10,489,107,081	\$21,583,570,297
Annual GDP (uses 2020 GDP for consistency with trauma cost)	\$561,488,714,680	\$583,947,876,000	\$600,792,540,374
Annual Crash cost as a % of GDP	4.2%	1.8%	3.6%

BUSINESS AS USUAL – Global Burden of Disease Projections and adjusting per population rates in 2020 and 2030 (row 42) to meet projections. Note: WHO raw data will improve analysis.

	Business as Usual		
	2010	2020	2030
Fatalities	4,509	4,509	4,509
Fatalities and Serious Injuries	49,599	49,599	49,599
Fatalities and All Injuries	145,415	145,415	145,415
Population	38,276,660	39,807,700	40,956,000
Fatalities per 100,000 population	11.8	11.3	11.0
Fatality Growth Multiplier for Business as Usual	1.00	1.00	1.00
Fatality Growth Lookup for BAU			
High	1.00	1.00	1.00
Low	1.00	1.44	1.56
Middle	1.00	1.10	1.20



iRAP Star Ratings and the SDGs - National Policy Targets to halve road deaths by 2020
Maximising travel on 3-star or better roads for all road users



Note: Spreadsheet tool developed by iRAP to explore national targets and the % of travel of 3-star or better roads needed to reach the SDG targets in your country. For details on assumptions and background detail please contact rob.mcinerney@irap.org.

Country selected: Poland

Reported number of road traffic deaths ^d	3,907
Modelled road traffic deaths - Point Estimate	4,509
Estimated Road Length	
Estimated road traffic death rate per 100,000 population	11.8
Population numbers ^a for 2010	38,276,660
GNI per capita ^b for 2010 in US dollars	12,450
Income level ^c	High

Star Ratings will be improved through a combination of investment in engineering upgrades on high volume high-risk roads and speed management on roads where investment is not affordable or economically viable. Upgrading roads and/or reducing speeds improves the star rating for all road users.

Percent of travel at each star rating level				
Star Rating (all users)	Baseline (Example)	Baseline	2020	2030
5-Star	2%	2%	10%	15%
4-Star	8%	8%	20%	25%
3-Star	50%	50%	40%	60%
2-Star	30%	30%	30%	0%
1-Star	10%	10%	0%	0%
TOTAL	100%	100%	100%	100%

Fatality Reduction Potential of Improving Star Ratings				
Performance Metric			2020	2030
Weighted Star Rating Fatality Index	0.38625	0.38625	0.28125	0.190625
SDG Targets National				
Star Rating Targets				
SDG Targets Global				
WHO and iRAP Data				

STEP 5
Review the baseline star rating for your network / country, and set targets for the desired safety performance in 2020 and 2030

↓

STEP 6

READY 80%



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iRAP Star Ratings and the SDGs - Global Policy Targets to halve road deaths by 2020


Maximising travel on 3-star or better roads for all road users

STEP 1: Enter per population targets for low, middle and high-income countries until the global SDG target to halve road deaths by 2020 has been achieved (C16 is less than D16)

STEP 2: Review the number of fatalities and serious injuries that will be saved when the targets in Step 1 have been achieved. Enter the Targets and the "Fatalities & Serious Injuries" saved in your personal worksheet.

EXECUTIVE SUMMARY				LIVES IMPACTED: Fatalities and Injuries avoided compared to WHO Projections								
	Fatalities per 100,000 Population (Rates in white can be edited)			10 year period to 2020						20 year period to 2030		
	2010	2020	2030	Income Group	Fatalities saved	Serious Injuries Saved	Fatalities & All Injuries Saved	Fatalities saved	Serious Injuries Saved	Fatalities & All Injuries Saved		
TOTAL				Low-Income	347,000	3,817,000	11,191,000	857,941.08	9,437,000	27,669,000		
Low-Income	18	18	18	Middle-Income	559,000	6,149,000	18,028,000	1,776,171.57	19,538,000	57,282,000		
Middle-Income	20	20	20	High-Income	-	-	-	-	-	-		
High-Income	9	9	9	TOTAL	906,000	9,966,000	29,219,000	2,634,113	28,975,000	84,951,000		
SDG TARGET (Less Than)		620,000	310,000									
Total Fatalities per year Worldwide	1,240,000	1,375,405	1,506,252									
Global per Population Rate	18	18	18									
% Change Target from 2010 Baseline		-11%	-21%									

** Straight line reductions assumed above for simple analysis - stabilise and then reduce is expected in reality*



Simplified Calculations

	2010 Baseline					2015 Projection (2010-2020 interpolation)					TARGET <=	2030 Projection		
	Income Group	Low	Middle	High	TOTAL	Low	Middle	High	TOTAL	Low		Middle	High	
Fatalities		130,000	1,015,000	95,000	1,240,000	142,982	1,066,296	98,425	1,307,702	155,963	1,117,591			
Fatalities and Serious Injuries		1,430,000	11,165,000	1,045,000	13,640,000	1,573,000	11,729,500	1,082,500	14,384,500	1,716,000	12,294,000			
Fatalities and All Injuries		4,200,000	32,700,000	3,100,000	40,000,000	4,600,000	34,350,000	3,200,000	42,200,000	5,000,000	36,000,000			
Population		710,216,163	4,989,246,095	1,088,142,680	6,787,604,938	788,339,932	5,288,600,898	1,109,905,540	7,186,846,369	866,463,700	5,587,955,700			
Fatalities per 100,000 population		18	20	9	18	18	20	9	18	18	20			
Fatalities and Serious Injuries per 100,000 populat		201	224	96	201	200	222	98	200	198	220			
Fatalities and Injuries per 100,000 population		581	650	285	589	584	650	288	587	577	644			

SDG Targets National | Star Rating Target | **SDG Targets Global** | WHO and iRAP Data



CAREC Road Safety Strategy Target(s)

- Focus on CAREC road corridors
- Target(s) – regional/national?
- Target(s) for 2030?
- Interim targets?

