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**FHWA Project: Development and
Demonstration of Pavement Friction
Management Programs**

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Development and Demonstration of Pavement Friction Management Programs (PFMP) – Goals

- Reduce Highway Crashes and Related Fatalities

Development and Demonstration of Pavement Friction Management Programs (PFMP) - Objectives

- Establish investigatory (desirable) and intervention (minimum) thresholds for pavement surface friction and macro-texture for various classes of highway facilities (friction demand categories)
- Demonstrate state of art friction/texture measurement equipment
- Work with approximately 4 state DOT's to develop a PFMP

Development and Demonstration of Pavement Friction Management Programs (PFMP) - Background

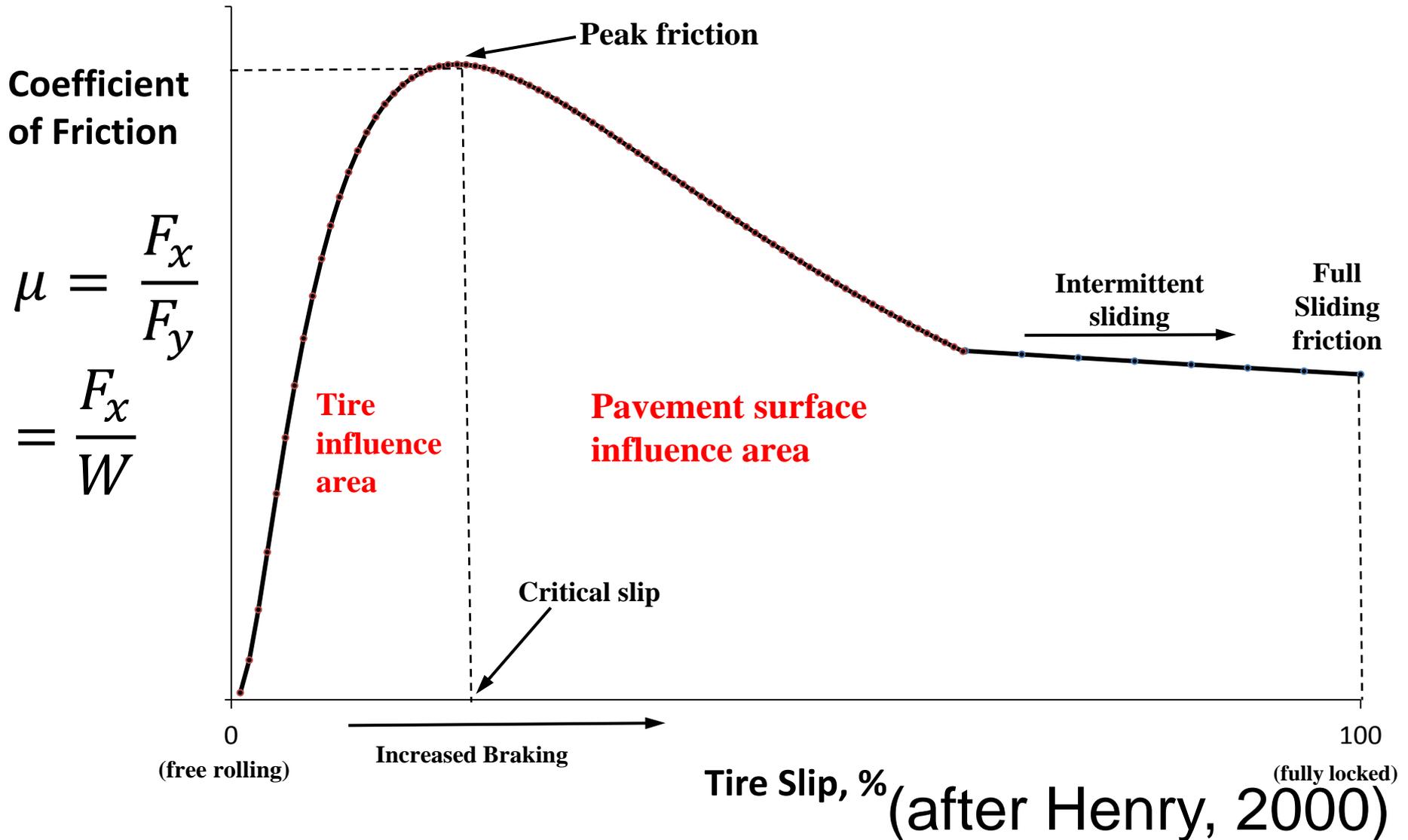
- 2008 AASHTO Guide for Pavement Friction
- 23 CFR 924 Highway Safety Improvement Program – safety database
- Many state DOT's have executive level performance goals to reduce fatalities
- Improved friction/texture measurement technology



Locked Wheel



Continuous Friction Fixed-slip



Friction Demand - Investigatory Levels (UK-English)

Site category and definition		Investigatory level (50 or 80 km/h)							
		0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
A	Motorway	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
B	Dual carriageway non-event	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
C	Single carriageway non-event	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
Q	Approaches to and across minor and major junctions, approaches to roundabouts	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
K	Approaches to pedestrian crossings and other high risk situations	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
R	Roundabout	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
G1	Gradient 5-10% longer than 50m	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
G2	Gradient >10% longer than 50m	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
S1	Bend radius < 500m - dual carriageway	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65
S2	Bend radius < 500m - single carriageway	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65

Development and Demonstration of Pavement Friction Management Programs (PFMP) - Status

- Consortium led by Virginia Tech selected through RFP process
- Procure equipment - 2013
- Select state DOT's for demonstration – 2013

Friction measurement equipment

1	Effectiveness in the prediction of (fatal) crash potential
2	Continuous friction measurement capability and operating principle; slip ratio
3	Macrotexture measurement
4	Stage of development of the device (experimental or commercially available)
5	Robustness and readiness for deployment
6	Data collection productivity
7	Measurement speed
8	Precision (Repeatability and Reproducibility)
9	Global Positioning System (GPS)
10	Software

Development and Demonstration of Pavement Friction Management Programs (PFMP) – State DOT interest

- Organizational goals to reduce fatalities
- Friction and crash analysis experience
- 2008 AASHTO Guide for Pavement Friction experience
- Geographic diversity
- Aggregate friction quality
- Interest in cooperating

Pavement Friction Management Programs

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Questions/Comments