



1st UITP Sustainable Development Conference

Sustainable Development Commitment of Istanbul Ulasim: First Achievements, the Case of Energy Efficiency



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18-20 October 2006 Bilbao Spain



Istanbul ULASIM

- Urban Rail Operator
- Founded in 1988
- Over 800 employees
- 6 Urban Rail lines, 53 km length ,
- 700.000 passengers per day
- One of the world's most densely used urban rail

Signed UITP Sustainable Development Charter in September 2005

Member of World Business SD Council





ULASIM SD Workshop

- Sustainable Development Concept
- Best Practices
- Sustainable Development Projects
- Priorities & Indicators & Targets of ULASIM

e Cities and Public Transport- Bringing Quality to Life
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ISO 14001 & OHSAS 18001

- Need of SD reporting system
- Embedding SD into Corporate Culture

•*What will be next?*

–EN 13816

–SA 8000

–PAS 55

Sustainable Cities & Communities
18-20 October 2006



Kalite Yönetim Sistemi
Çevre Yönetim Sistemi
İş Sağlığı ve Güvenliği Yönetim Sistemi



ISO 9001 ISO 14001 OHSAS 18001

Entegre Yönetim Sistemi



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TV CAMPAIGN

- “The World is your home. Look after It!”
- 3 months
- 2 TV Channels & Metro Stations



Dünya Sizin Eviniz. Ona İyi Bakın!



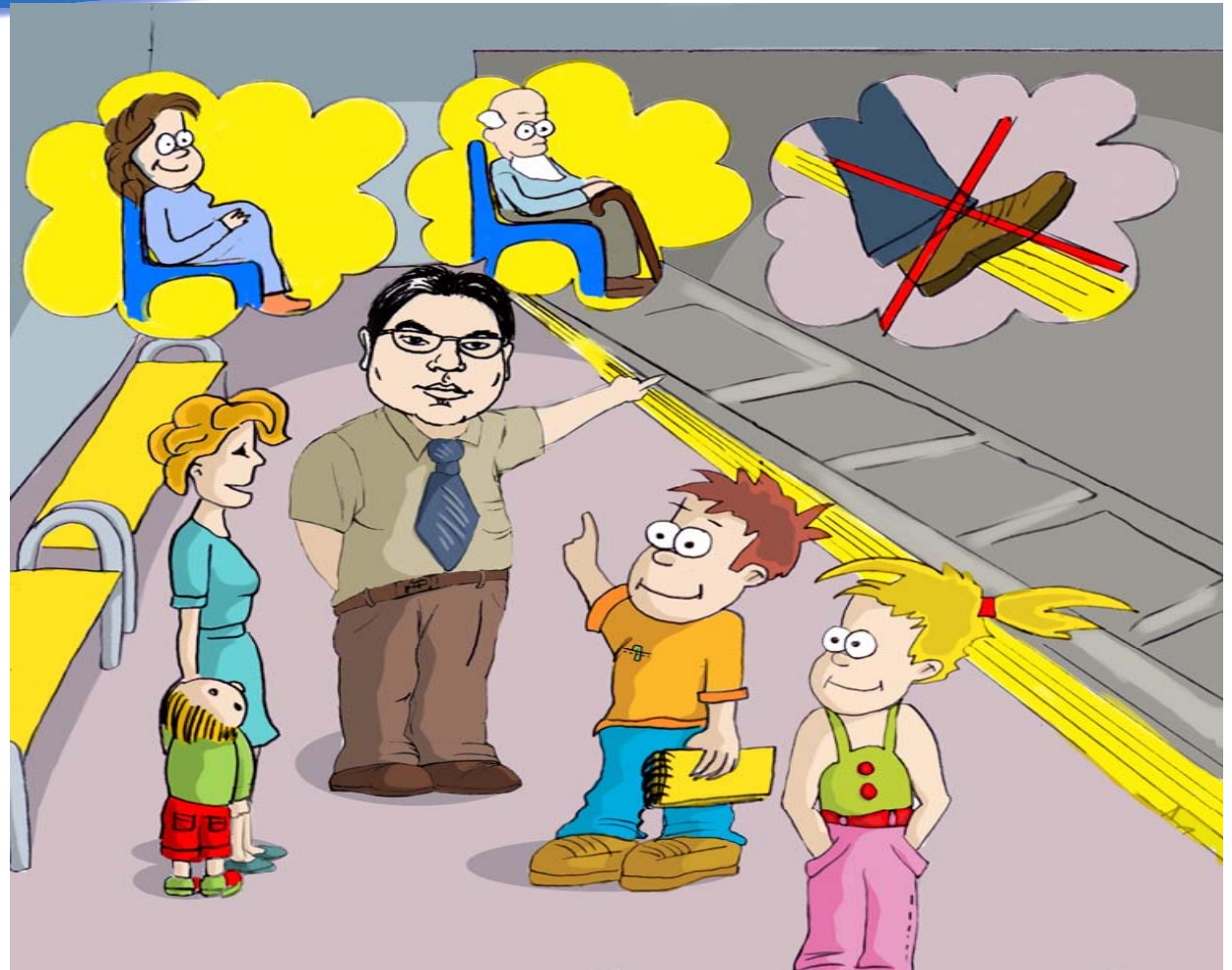
POSTER CAMPAIGNS





SCHOOL ACTION

- Primary school pupils
- 10-14 Age
- 15.000 students





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HYGENE IN PUBLIC AREAS



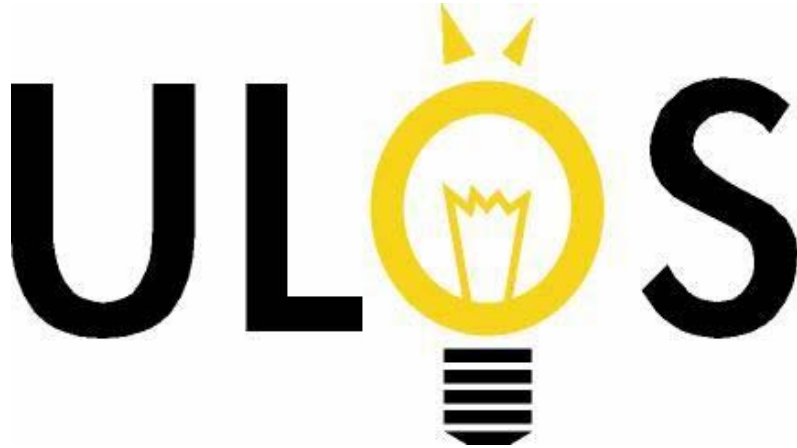
SAĞLIK A.Ş. ve ULAŞIM A.Ş. işbirliği ile yapılan uygulamada; istasyon ve araçlarda kalabalık ortamdan doğabilecek bulaşıcı hastalıkların önlenmesi amacıyla tüm araç ve istasyonlarda düzenli dezenfeksiyon işlemi yapılıyor.

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ULASIM SUGGESTION SYSTEM



- A way of ensuring participation
- Employees & Passengers
Suppliers
- Award Scheme
- Problem Solving Techniques
Training

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Sustainable Design

- Design & Security
- What are the triggers that prevent people from travelling by tram, bus, metro?
- Which are the best cases?
- Practical guidelines in terms of exploitation & management of interchange zones in intermodal tram-bus-metro-stations
- Design a more user friendly urban public transport





TRACTION ENERGY REDUCTION METHODS

- Choosing higher system voltage level for new lines.
- Reducing energy loss by catenary system paralleling.
- “Energy-wise” driving approach.
- Re-arranging speed limits on the line.



TRACTION ENERGY REDUCTION METHODS

- Increasing regenerated energy usage rate by means of energy storage devices.
- Revising operation concept. Short trains with higher frequency are expected to reduce energy consumption.
- Automatic train control.
- Upgrading vehicles.



1500 VDC VOLTAGE LEVEL FOR NEW LINES

Power Feeding System	Train Load Mode	Head way Time	Total Energy (kWh)	Energy Loss (kWh)	Energy Loss %	Difference in Total Energies (%)
750 VDC	FL	150 s.	16087	1744	10.84	9.17
1500 VDC	FL	150 s.	14612	704	4.82	
750 VDC	HL	150 s.	13978	1412	10.10	10.13
1500 VDC	HL	150 s.	12562	570	4.54	
750 VDC	FL	300 s.	8995	857	9.53	12.87
1500 VDC	FL	300 s.	7837	363	4.63	
750 VDC	HL	300 s.	7901	674	8.53	11.78
1500VDC	HL	300 s.	6970	280	4.02	

1500 VDC power system gives approximately 10 % energy saving in traction energy cost of the system.



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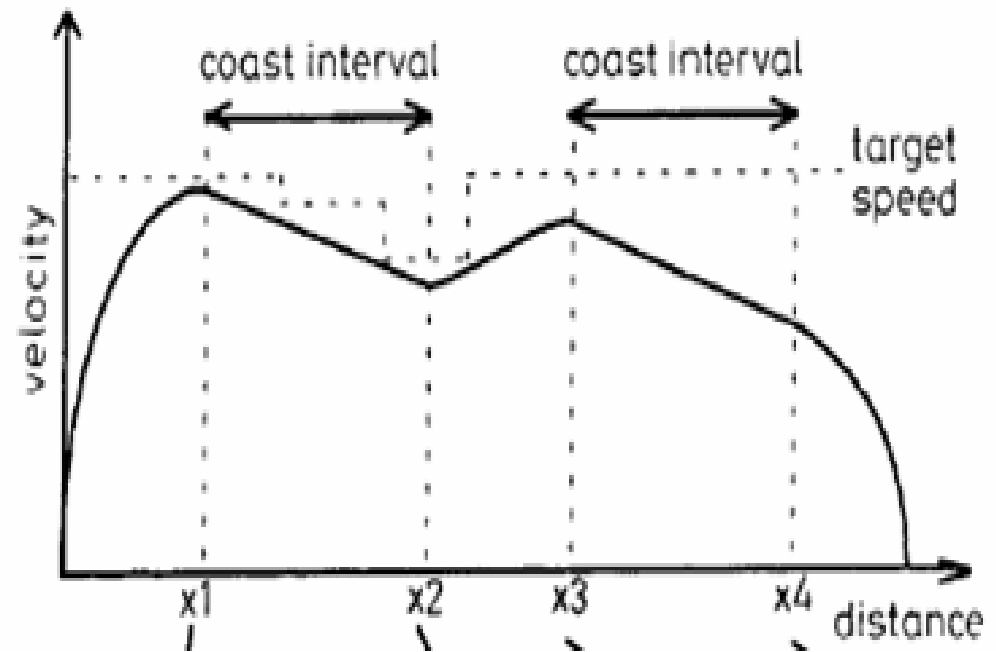


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ENERGY WISE DRIVING

- Driver Assistance System (DAS)
- Coasting of trains
- High acceleration





AUXILIARY SERVICE ENERGY

- Using sun light as much as possible with proper passenger station (PS) design.
- Optimization of lighting systems and using energy efficient armatures and ballasts.
- Equipping escalators with driver and sensors to be run at full speed when passengers approach.
- Heat isolation of office management buildings.



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Thanks for listening with patience.

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