

# University Bike-Share Systems: A Systems Engineering Techno-socio-economic Approach

Mario Salomon, Juan Pablo Fernandez and Aditya Akundi

## 1.0 Abstract

Bike sharing systems have become very popular in recent years due to its proven success in providing cities with alternative and cleaner form of transportation. Current Bike-Share Systems represent the 4<sup>th</sup> generation of bike sharing system technologies. With the ongoing transformation at The University of Texas at El Paso (UTEP) and its pursuit of Tier one status, sustainability and green initiatives have become a major driver for the University's future development initiatives. This white paper discusses UTEP's systematic techno-socio-economic approach to University Bike-Share Systems. By developing an infrastructure with applied innovative technologies (4<sup>th</sup> generation) to be economically driven, social behavioral change can be accomplished. The University Bike-Share System uses Lean Thinking and Lean Principles to achieve the delivery of an efficient Bike-Share system that satisfies the stakeholders' needs.

Keywords: Environment, Transportation, Bike sharing, University, Systems Engineering Process, Lean Thinking

### *Biography:*



*Mario Salomon is earning a Master of Science in System Engineering at the University of Texas at El Paso (UTEP). He has worked on a number of projects, including a Student Government Association (SGA) funded Green Fund projects to engineer and approve a new Wide-Area Student Busing System, the development and deployment of a Miner recycling System and a UTEP Bike-Share System in collaboration with City of El Paso and Metropolitan Planning organization. Email: [masalomon@miners.utep.edu](mailto:masalomon@miners.utep.edu)*



*Juan Pablo Fernandez is earning a Master of Science in System Engineering at the University of Texas at El Paso (UTEP). He has worked on a number of projects, including a Student Government Association (SGA) funded Green Fund projects to engineer and approve a new UTEP Bike-Share System in collaboration with City of El Paso and Metropolitan Planning organization. Email: [jpfernandez@miners.utep.edu](mailto:jpfernandez@miners.utep.edu)*



*Aditya Akundi earned a Master of Science in Electrical and Computer Engineering at the University of Texas at El Paso (UTEP), and is currently a doctoral student within the Industrial and Systems Engineering (ISE) track. He has worked on a number of projects, including two Student Government Association (SGA) funded Green Fund projects to engineer and approve a new Wide-Area Student Busing System and a UTEP Bike-Share System in collaboration with City of El Paso and Metropolitan Planning organization. Email: [sakundi@miners.utep.edu](mailto:sakundi@miners.utep.edu)*