How to Integrate Pedestrian Simulation in the Design Process

### Improve Safety

- **LEGION Simulator** enables you to re-imagine your design or existing building by simulating alternative scenarios.
- Easily test different near real-life variations of all types of your design or existing building.
- Completely change demand, activities, or inputs for:
  - All or only specific entrances
  - Entire period or for a specific time
  - Whole model population or specific groups

### Enhance User Experience

- **LEGION Simulator** accounts for people behavior, enabling you to:
  - Form human decision making, crowd formation, and patterns of movement.
  - Test multiple what-if scenarios with infrastructure safety.
  - Reduce Capital and Operating Costs.

### Easily Compare Design Alternatives

- **LEGION Model and Runner** can be used on any computer platform and has no limitations on the number of participants.
- **OpenBuildings Station Designer** is a companion application with **LumenRT**, featuring:
  - VR and AR viewing
  - Instant visualization of simulation results
  - Use of visualization outputs for a broad range of infrastructure assets that include:
    - Space and activity simulation to analyze building performance for design improvements.
    - Simulation in the design process.
    - How to Integrate Pedestrian Stations Rail and Metro.

### Reduce Capital and Operating Costs

- Test and improve different near real-life variations of all types of your design or existing building.
- Completely change demand, activities, or inputs for:
  - All or only specific entrances
  - Entire period or for a specific time
  - Whole model population or specific groups

### Share Output Seamlessly

- **LEGION Simulator** provides a broad range of infrastructure assets that include:
  - Space and activity simulation to analyze building performance for design improvements.
  - Simulation in the design process.
  - How to Integrate Pedestrian Stations Rail and Metro.

### Increase Indirect Revenue

- **LEGION Simulator** boosts alternative revenues by:
  - Optimizing design and operations with **LEGION Simulator**.
  - Easily Compare Design Alternatives.
  - Ensure the most efficient operation planning across design, operation planning, and execution.

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### Did You Know?

- Transport for London (TfL), the owner-operator of the London Underground (the world's oldest metro system), used **LEGION Simulator** for the year 2017-2018. **LEGION Simulator** played a key role in helping TfL achieve these results.
- To maximize profits, owner-operators of infrastructure are becoming a major concern for city governments.
- Urban infrastructure is becoming more crowded, and safety and security risks are under pressure to urbanization.
- Global population growth and transportation trends are projected to add 2.5 billion people to cities by 2050.
- In the last decade, the number of air passengers has increased by 50% and the number of rail passengers has increased by 100%.

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**Source:**
- The 2018 Revision of World Urbanization Prospects
- Statista, 2019 and Network Rail, 2016
- TFL Capital Strategy, 2018

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**Learn More About: LEGION Simulator**

- Bentley's OpenBuildings Station Designer
- LumenRT

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**Learn More About:**

- Simulation in the Design Process
- How to Integrate Pedestrian Stations Rail and Metro
- Opportunities for:
  - Reducing capital and operating costs.
  - Boosting alternative revenues.
  - Maximizing commercial and advertisement space.
  - Planning, testing, and improving maintenance.

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**About the Author:**

- **Bentley Systems, Incorporated** is the world's leading provider of software to engineers, architects, contractors, owners, and other construction participants for the entire life cycle of their assets. Through a cloud-based platform, Bentley offers software and services for project execution, operational efficiency, and strategic decision-making. For more information visit www.bentley.com.