2016 Louis Berger Fellows Program
Municipal Asset Management Business

Amir Goharpey
Washington, DC
Fall 2016
Introduction

• Amir Goharpey
  o Master’s in Mechanical Engineering Candidate at New Jersey Institute of Technology (NJIT)

• Luke Hansen
  o Master’s in Community and Regional Planning Candidate at Rutgers, The State University of New Jersey
Louis Berger Overview

• Louis Berger is an Engineering News-Record top-20 ranked corporation
• $1 billion global professional services corporation
• Louis Berger operates on every habitable continent
• Nearly 6,000 engineers, economists, scientists, managers, technicians and planners are working together
The Trip
Weekends!
Office Location
Amir Goharpey and Luke Hansen were tasked with determining if, and how, Municipal Infrastructure Asset Management can become a viable business opportunity for Louis Berger that offers solutions to small- and mid-size municipalities facing infrastructure management challenges.

- Introduction to Infrastructure Asset Management
- Potential Municipal Asset Management Market
- Municipal Asset Management Business
Infrastructure Assets

Road Network
- Total Replacement Cost: $56,582,213
- Cost Per Household: $18,276

Sanitary Sewer Infrastructure
- N/A

Storm Sewer Network
- Total Replacement Cost: $3,006,341
- Cost Per Household: $27,084

Water Network
- Total Replacement Cost: $6,223,709
- Cost Per Household: $15,637

Bridges & Culverts
- Total Replacement Cost: $20,277,499
- Cost Per Household: $6,550
First Glance at Asset Management

- Broad, multi-faceted concept that does not lend itself to a simple definition
  - Operational system that focuses on efficiently and equitably allocating resources among competing goals and objectives

- One aspect of asset management is performance-based maintenance
  - Provides long-term guaranteed maintenance outcomes and performance at fixed cost
  - Maintenance services more efficient and cost-effective than what are traditionally provided

- Institutional knowledge of performance-based maintenance at Louis Berger
Municipal Asset Management Overview

• Infrastructure asset management plans have been utilized in large U.S cities and in other countries for more than a decade

• There is a shared context in all asset management plans (AMPs)

• It is better for small- and mid-size municipalities to have simple AMPs than none

• Many opportunities to perform infrastructure maintenance with an asset management approach

• Municipalities have their strengths and weaknesses; while many municipalities might have incremental asset management approaches for maintaining single asset networks, they may seek outside help for other infrastructure networks
Travels to Virginia
Municipal Asset Management Visualization

Asset Management Plan Methodology

EVALUATION OF INFRASTRUCTURE STRATEGIC GOALS
- Strategic Plan Goals, Asset Performance & Community Expectations, Legislative Realities (Policy)

STATE OF CURRENT INFRASTRUCTURE
- Asset Inventory, Valuation, Current Condition/Performance, Budget Analysis

EXPECTED LEVELS OF SERVICE
- Key Performance Indicators, Performance Measures

ASSET MANAGEMENT STRATEGY
- Lifecycle Analysis, Growth Requirements, Risk Management, Project Prioritization Methodologies

FINANCING STRATEGY
- Revenue & Expenditure Analysis, Define Optimal Budget & Financial Plan, Long-Term Funding Strategy, Gap Analysis

AMP PERFORMANCE REPORTING
- Project Implementation, Key Performance Measures Tracked, Progress Reported to Government Leaders, Plan Revision
Benefits of Doing an Internship With Louis Berger

- Gain industry knowledge you won't learn anywhere else
- Accumulate evidence of your abilities
- Make critical professional contacts
- Your resume will look better and helps to land a full-time job
- The experience will narrow down your list of potential careers
- You can gain an unforgettable life experience
2016 Louis Berger Fellowship Program

Prashanth Bangalore Muralidhar
Doha, Qatar
Summer 2016
Introduction

• Prashanth Bangalore Muralidhar
  o Master's in Engineering Management Candidate at New Jersey Institute of Technology (NJIT)

• Duration: 12 Weeks

• Location: Doha

• Andrew Balmer
  o Master’s in Community and Regional Planning Candidate at Rutgers, The State University of New Jersey
Profile

AGENDA

- Introduction to Qatar
- World Cup 2022
- World Outside Work
- Accommodation @ Doha
- Quick Facts about Qatar
- Doha Metro
- Benefits of Internship
Capital: Doha.
Distance from NYC: 6689 Miles.
Currency: Qatari Riyals.
QUICK FACTS ABOUT QATAR

- Location: Middle East
- Area: 11,586 sq km (4,473 sq mi)
- Border Countries: Saudi Arabia, 60 km (37 mi)
- Natural Hazards: Haze, Dust storms & Sandstorms
- Climate: Pleasant Winters; Very Hot & humid summers
- Population: Arab 40%, Pakistanis 18%, Indians 18%, Others 14%
QUICK FACTS ABOUT QATAR

- Geography: Flat Desert
- Current Issues: Lack of Fresh Water.
- Languages: Arabic (official), English
- Major Industries: Liquefied Natural Gas, Crude Oil Production, Fertilizers, Petrochemicals Cement, Commercial Ship Repair
Winning the bid for the FIFA World Cup was an honor not just for the country, but for the region.

It is preparing itself to welcome a global audience into its home for one of the most widely-attended events in the world.

These infrastructural projects include the building and development of existing facilities such as stadiums, roads and freeways, an railway network, housing projects, hotels, malls and airport.
It will be built over two phases and Phase I will be complete by 2018.

The Phase I will see the Red, Gold, and Green lines opening in 2019 with 37 stations and 75 kilometers of revenue lines.

The phases involve the introduction of blue line with more than 60 additional stations and more than 130 kilometers of additional revenue lines.
DOHA METRO: RED LINE/ COAST LINE

- 40 km in length from south to north
- 18 stations
- 280,000 passenger trips per day by 2021
DOHA METRO: GREEN LINE/ EDUCATION LINE

Doha Metro: Phase 1
Green Line

- 22 km in length from east to west
- 11 stations
- 140,000 passenger trips per day by 2021

Map showing stations along the line:
- Msheireb
- Al Mansoura
- Al Bidda
- The White Palace
- Al Messila
- Al Rayyan Al Qadeem
- Al Shaqab
- Education City
- Qatar National Library
- Al Riffa
DOHA METRO: GOLD LINE/ HISTORIC LINE

Doha Metro: Phase 1
Gold Line

- Msheireb
- Souq Waqif
- Qatar National Museum
- Bin Mahmoud
- Sadd
- Sudan
- Joaan
- Wlaab
- Aziziya

14 km in length from east to west
11 stations

180,000 passenger trips per day by 2021
DOHA METRO: MSHEIREB STATION

- The only interchange station between Red/Green/Gold lines.
- 12 TBM breakthroughs, 37m deep equivalent to a 15 floor building.
- One of the largest metro station below the ground in the world.
- 250,000m³ of concrete used for the construction of this station.
- 63 escalators, 6 travellators, 350m length & 200m wide
DOHA METRO: MSHEIREB STATION

CURRENT SITE PROGRESS
WORLD OUTSIDE WORK
WORLD OUTSIDE WORK
BENEFITS OF INTERNSHIP

- Worked in an excellent team with a very good manager.

- Project Control is an excellent addition to my skillset.

- Document control was one of the main responsibilities during the internship.

- Provided me an opportunity to explore a new culture and country which can helpful throughout my professional journey.
ACCOMMODATION: EZDAN HOTEL, WEST BAY
Thank You