



Journey to Planet Earth

**Transcript for Episode 02:
The Urban Explosion**

Abridged Version

Journey to Planet Earth is produced by

**Screenscope, Inc.
4330 Yuma St, NW
Washington, DC 20016**

(Opening Montage)

We have always been drawn to cities -- yet from high above signs of life are nearly impossible to detect -- until day slowly turns back into night to reveal shimmering islands of intense human activity.

Whether lured by neon or driven from the countryside by economics, for the first time in history more than half the world's inhabitants live in cities. Please join us now, as we journey to four great cities of the world: Mexico City, Istanbul, Shanghai, and New York. Along the way we will explore a major dilemma of the 21st century -- how to shelter and sustain the world's exploding urban population without destroying the delicate balance of our environment.

Planet Earth -- this is where our journey of discovery begins.

(Mexico City)

Mexico City pulses with energy. It's an ancient gathering place layered with a rich history of indigenous and Spanish cultures. Lately, the people who live in Mexico City have little else to celebrate.

(Demonstrations)

How did this happen? How could such a proud and beautiful city become a metaphor for all that could go wrong with urban development?

(Computer Visualization)

Home to over 20 million citizens and growing by 350,000 each year.... Computer-generated models help visualize the city's fundamental problem. Mexico City is located in a valley a mile and half above sea level. Surrounded by a wall of mountains, some as high as 12,000 feet, it's locked into what scientists call a closed eco-system. Unlike most other mega-cities there is little wind to cleanse the air and no ocean or major river to exchange water and sewage.

The city's atmosphere is thick with smog -- a toxic soup cooking airborne chemicals into ozone. Eight out of ten days are declared hazardous to human health. Just breathing is said to be the equivalent of smoking two packs of cigarettes a day. Adding to the problem are 35,000 factories spewing tons of pollutants into the air.

(Cars)

But it's primarily the emissions from over three million cars that leave the city gasping for breath. Mexico City is trapped between the limitations of its geography and a way of life shaped by the internal combustion engine. Unfortunately, city officials have been forced to use much of their limited resources to deal with a more serious crisis.

In a city famous for its richly decorated fountains, Mexico City is running out of water.

(Rainstorm)

The brief rainy season offers little help and the nearest river is on the other side of the mountains. Though Mexico City sits on top of a vast aquifer it's in danger of running dry because 70 percent of the city's drinking water is pumped from the underground reservoir.

(Canals)

Compounding the problem are open canals cutting through the heart of the city. Each day, they carry billions of gallons of raw sewage. Spreading foul odors and disease, the waste water is pumped over the mountains -- away from the city.

(Foaming Canal)

The canal eventually spills into the Tula River. Along the way the water foams with phosphates and deadly bacteria -- poisoning everything in its path. Before the toxic waste reaches the Gulf of Mexico it makes a brief but lethal stop.

(Valley)

Sixty years ago the Mezquital Valley was an arid wasteland. Today it's a fertile oasis because farmers, desperate for water, use the city's untreated sewage to irrigate their crops.

Jenny Garcia Sanchez knows little about the water her parents use to irrigate their pastures. She is nine -- a good student -- and talks about becoming a doctor. If she gets her wish, business could be very brisk. Every few years the tainted water brings cholera to the valley. It's a deadly trade-off most of these farmers have reluctantly accepted.

(village)

Their only hope is that Mexico City does something to ease the crisis.

(Lake)

Though only ten percent of the city's waste water now passes through new purification tanks, it's at least a start. An added benefit is that the treated water is used in another environmental effort -- the restoration of Lake Texcoco. Drained by the Spanish four hundred years ago, Mexico City's treated water is giving the dried-out lake bed a new life.

Now a safe haven for local and migrating birds, the restored lake is strong evidence that much can be done to improve the city's quality of life.

(Celebration)

The lesson of Mexico city is simple. Despite all its history -- all its efforts -- the devastating consequences of uncontrolled growth serve as an environmental warning to the rest of the world -- especially to newly emerging mega-cities -- like Istanbul.

(Istanbul Waterfront)

A sophisticated waterfront city, rich with ethnic and religious diversity, this has always been one of the great metropolis's of the world.

(Map)

Istanbul's location is both unique and strategic. Built on the edge of two continents -- Asia and Europe -- throughout history this was a bridge between the Orient and the trading centers of Europe and the Middle East. Connecting the Black Sea to the Sea of Marmara is the Bosphorous strait -- a narrow fifteen mile waterway -- cutting through the heart of Istanbul.

(Aerials)

For more than a thousand years this was a center of the civilized world -- a capital of three great empires -- Roman, Byzantine, and Ottoman.

For centuries its citizens have been asking themselves where they truly belong -- East or West? Now they must ponder the consequences of Istanbul's recent transformation from a city of a million and half to an uncontrolled and sprawling mega-city.

(Bus Station)

Istanbul's newest residents are those who flee rural poverty and violence. Many are from Turkey's war-torn Kurdish region. Drawn to the safety and booming economy of Istanbul, they arrive at the rate of over 1,400 every day, 43,000 every month, more than half a million hungry and impoverished people every year.

(Cars)

With little room left in the old city, people are crowding into Istanbul's unspoiled areas -- igniting a battle between those who need housing and those who want to preserve the city's remaining green spaces.

The most dramatic example of greenspace loss is along the Bosphorous. Until a few years ago this 17th century Ottoman palace was surrounded by a healthy habitat for plants and animals. Today, it's been invaded by urban sprawl. A nearby forest has been completely destroyed and replaced by a huge housing project.

The impact of mass migration on the city's infrastructure is enormous.

(Docks)

Just ask those who work the waters of the Bosphoros. This is an industry that's always supported generations of families. Today they face a grim future. Like the farmers of Mexico's Mezquital Valley, these fishermen are suffering the consequences of a city that can't handle the sewage it generates.

(Waterfront)

Istanbul treats less than 50% of its waste water. The rest is pumped into what was once one of the world's most productive fisheries. Into the waters where Mehmet Ozturk has fished for almost twenty years.

He was 18 when his father taught him the trade. Mehmet always dreamed that one day his son would join him. That was when this fishery was among the world's most productive. Today his catch is meager -- a family tradition is about to disappear.

Fortunately, there are still some who dream of what their city can be.

(Poverty)

Ten years ago the community of Esenyurt was an economic and environmental nightmare -- a barren landscape inhabited by the city's poorest immigrants.

Life was particularly difficult for women. In Esenyurt only 7% held a job. It was unheard of for a woman to own property. After his election -- the new mayor brought dramatic change. It's had a profound effect on women. He decided to build a new community -- from the ground up.

It soon became one of Istanbul's most successful housing developments -- and it was legal. For the women of Esenyurt the benefits were enormous. It gave Ayse Savas the freedom to start a career. With a \$350 loan from a community foundation she opened a cafe. It changed her life. She now owns her own business and has already paid-off her loan. Ayse's success and that of her community shows that there are ways for cities to face new challenges.

(Shanghai)

Though some have called Shanghai the city of the new millennium, there are moments when Shanghai seems caught between two worlds -- especially in the early morning hours along the city's famous waterfront promenade. Yet, it was here -- besides the Huangpu River -- that China's richest and most important industrial city first showed signs of economic greatness. It wasn't all that long ago -- about 150 years. That's when foreign interests transformed a sleepy fishing village into a thriving colonial trading center.

(Waterfront)

Today, it's an international port of call. Just across the river is the futuristic skyline of the city's newest neighborhood -- Pudong. Home to thousands of multi-national corporations -- they have located here for only one reason. Shanghai is destined to become the financial center of China -- if not all of Asia.

(Crowds)

The result is a city crowded with people. In less than a decade 13 million people have been joined by nearly 3 million farmers from the poorer countryside. Some seek prosperity by selling food in the local markets. Ni Xia and her family arrived four years ago. Xia is 21. Her mother hopes to earn enough to give her daughter an advanced education. She would be the first in her family to go to college.

(Construction)

Others seek economic opportunities in one of the 20,000 construction sites in Shanghai. These workers were once rice farmers from the northern provinces. Today, they share a common dream of earning enough to shop on Nanjing Road -- the city's most elegant thoroughfare.

(Shopping)

Even though the city's booming economy never seems to let up, Shanghai must face the same reality as Istanbul and Mexico City -- rapid growth and uncontrolled development often generate major environmental problems.

Most mornings smog hangs low over Shanghai's imposing skyline. It's the result of burning low-grade coal used as the primary fuel for cooking, heating and running factories. To ease the problem there are limitations on the ownership of cars and stricter air quality regulations for factories. Shanghai's authorities are also learning from other mega-cities.

(Subway & Roads)

The city is slowly rebuilding its infrastructure -- starting with a public transportation network. At its heart is a new subway system. Above ground, new highways ease traffic congestion as well as link Shanghai with surrounding industrial and bedroom communities. But like all cities -
- Shanghai has major issues with water and sewage.

(Creek)

Suzhou Creek is an ancient canal cutting through the heart of Shanghai. Each day thousands of barges carry food and construction materials in and out of the city. It has also become a sewer -- receiving much of Shanghai's untreated wastewater. Compounding the problem are massive amounts of pollution coming from solid waste collection sites and factories flanking the waterway. Conditions like these can not sustain a city in the midst of an economic boom.

(Tunnels)

Construction workers are building a series of huge tunnels that will collect Shanghai's wastewater. Instead of sending it to places similar to the Mezquital Valley or the Bosphorous Strait, the water will be treated and flushed out to sea.

But as the city continues to grow, it's having a major impact on the surrounding countryside.

(Countryside)

Perhaps the most dramatic impact of Shanghai's affect on the countryside is in the nearby city of Suzhou.

(Suzhou)

This is a place famed for its ancient gardens. For thousands of years Suzhou adhered to a more traditional, more spiritual way of life. It's a city that cherishes its ancient system of canals.

(Visualization)

But Shanghai's rapid growth hasn't come without a price. In this 10 year old satellite image of rural villages near Suzhou, green indicates agricultural activity. In a recent photograph the pink areas indicate urban development and the dramatic loss of farmland.

Today officials in Suzhou are struggling to preserve its historic district. They have imposed height restrictions on buildings and closed some streets to motorized vehicles. But it may be too late as Shanghai's industrial sprawl begins to envelop Suzhou.

(Children)

In response, the people of Shanghai provide their youngest generation with a strong sense of culture and history. Their hope is that these young people will develop their own vision to deal with the city's environmental needs in the years to come.

(New York)

The same sort of vision New Yorkers clearly demonstrated more than a century ago. It was a time when great waves of immigrants came to the United States -- many fleeing from religious or political unrest. Most came in search of economic opportunities. As the city's population surged, it was forced to deal with growing water, sewage and rapid transit needs. By the 1930s New York's population was 7 million and overtook London as the world's largest city.

(Aerials)

From the air New York is like no other place on Earth. Ringed by water and built of steel, this is a mega-city that works. For the 20 million people who live in or around New York -- with a few exceptions -- water and air quality are relatively high and all of its sewage is treated before leaving the city.

Above all, New York is still a beacon for those seeking a new life -- a city where more than half its population are foreign born or are the children of immigrants.

(Bronx)

The energy that makes New York work can be found in ethnic neighborhoods like the South Bronx. Once a community of Irish, Italian, and Jewish immigrants, today it's still a thriving neighborhood, but now it's a place where Spanish is the first language.

(Harlem)

The American dream -- for the densely populated community of West Harlem it is a concept that at times has little meaning. Each day its residents struggle with serious environmental abuses. Their street art reflects the depths of their frustration.

From the air it's hard to distinguish between affluent neighborhoods and those in need. Except over Harlem. Lush parkland is visible along much of the city's shoreline. When the greenspace ends -- Harlem begins.

Along the city's most elegant street -- Park Avenue -- a subway line is hidden deep underground. But when it reaches Harlem it suddenly comes roaring into view. Though the issue of lost greenspace is serious, it pales when compared to Harlem's major problem -- the community is haunted by a serious health problem.

This contributes to a virtual epidemic of asthma in Harlem. With an incidence triple the New York City average, the community has been called a public health disaster. Recently, wastewater and sewage treatment plants were constructed along the Hudson River. Though originally planned for a downtown neighborhood -- when its affluent citizens complained -- the plants were built in Harlem.

But thanks to the efforts of community leaders, health conditions are slowly improving. A plan to expand the city's waste facilities in Harlem was stopped -- as the community continues to fight for environmental equality.

(Brooklyn)

(Closing Montage)

In the end -- the people of New York City -- are no different from those in Mexico City, Istanbul, and Shanghai. The quality of their lives is controlled by their ability to cope with change.

By the year 2020 over 60% of humanity will live in urban centers. Fortunately, we are now beginning to understand how cities work as unified systems.

We are also recognizing that those who live in cities have the right to basic necessities like clean air and water.

Though the challenge of balancing economic growth with the health of a city can be a difficult struggle -- no one questions that it must be done.

Despite all their problems, the extraordinary thing about cities is that they remain places of learning, where opinions and ideas can be exchanged.

For the people who live in cities -- who are drawn to the promise of a more rewarding life -- they all share a common bond -- a bond that is renewed by the birth of each new generation -- bringing new ideas -- new attitudes -- new visions for the future.

Planet Earth. This is our home -- this is where our journey of discovery must begin.

#####