McKinsey Global Institute

April 2010

India's urban awakening: Building inclusive cities, sustaining economic growth

The McKinsey Global Institute

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MGI's work is conducted by a group of full-time fellows based in offices in Beijing, Brussels, Delhi, London, San Francisco, Singapore, and Washington, DC. MGI project teams also include consultants from McKinsey's offices around the world and are supported by McKinsey's network of industry and management experts and worldwide partners. In addition, leading economists, including Nobel laureates and policy experts, act as advisers to our work.

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India's urban awakening: Building inclusive cities, sustaining economic growth

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Preface

The choices that India makes to manage the process of its urbanization will have profound consequences for its people and its economic future. But the approaches India's policy makers take will have much broader resonance beyond their own borders. Worldwide, the search for new sources of growth and new market opportunities is on—and how India performs over the next 20 years is of acute interest globally.

India's urban awakening: Building inclusive cities, sustaining economic growth describes the findings of the research that the McKinsey Global Institute (MGI) launched 21 months ago in collaboration with the India office of McKinsey & Company. The purpose of this research project was to understand how India's urbanization might evolve, explore the many problems facing India's fast-growing cities and what policy makers can do to mitigate the strains of urban life in India and maximize the opportunities offered by cities.

MGI developed an econometric model to study the implications of urbanization at the local, state, and national levels, and the economic and demographic impact on the 70 largest cities in India. We supplemented all modeling with in-depth analyses of 15 Indian cities and engaged in discussions with more than 100 Indian and international urban experts and economists, and with officials in state and local governments. We also held workshops with the political and administrative leaders of five international cities— Johannesburg, London, New York, Shanghai, and Singapore.

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Opportunity of India's urbanization to 2030

5 times – the number by which GDP will have multiplied by 2030

590 million people will live in cities, nearly twice the population of the United States today

270 million people net increase in working-age population

70 percent of net new employment will be generated in cities

91 million urban households will be middle class, up from 22 million today
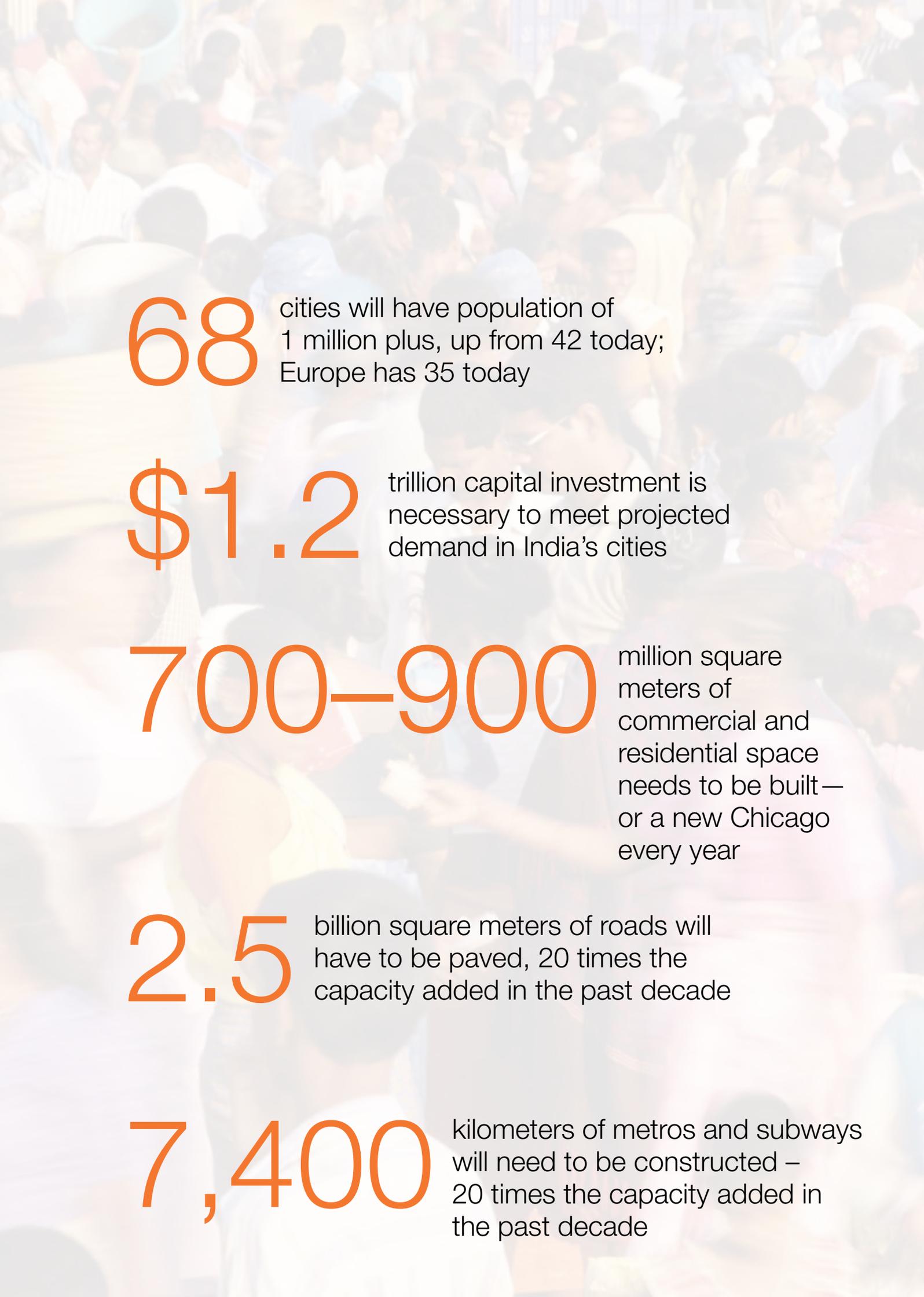
68 cities will have population of 1 million plus, up from 42 today; Europe has 35 today

$1.2 trillion capital investment is necessary to meet projected demand in India's cities

700–900 million square meters of commercial and residential space needs to be built— or a new Chicago every year

2.5 billion square meters of roads will have to be paved, 20 times the capacity added in the past decade

7,400 kilometers of metros and subways will need to be constructed – 20 times the capacity added in the past decade

Executive summary

India is on the move. Economic reform has already unleashed investment and growth, offering its citizens rich opportunities. Although the Indian economy has been resilient so far, the key issue now is how to sustain this momentum. Turning around its cities and releasing their dynamism will be critical to India's future economic growth.

Unlike many countries that are grappling with aging populations and rising dependency ratios, India has a young and rapidly growing population—a potential demographic dividend. But India needs thriving cities if that dividend is to pay out. New research by the McKinsey Global Institute (MGI), the economics and business research arm of McKinsey & Company, estimates that cities could generate 70 percent of net new jobs created to 2030, produce more than 70 percent of Indian GDP, and drive a near fourfold increase in per capita incomes across the nation.

Surging growth and employment in cities will prove a powerful magnet. India's urban population grew from the 290 million reported in the 2001 Census to an estimated 340 million in 2008, and MGI projects that it could soar further to 590 million by 2030. This urban expansion will happen at a speed quite unlike anything India has seen before. It took nearly 40 years (between 1971 and 2008) for India's urban population to rise by 230 million. It could take only half that time to add the next 250 million.

The speed of urbanization poses an unprecedented managerial and policy challenge—yet India has barely engaged in a national discussion about how to handle this seismic shift in the makeup of the nation. Indeed, India is still debating whether urbanization is positive or negative and whether the future lies in its villages or cities. This is a false dichotomy—villages and cities are interdependent and symbiotic.

In fact, the urban economy will provide 85 percent of total tax revenue, which will finance development nationwide. And some 200 million rural Indians who live in proximity of India's largest 70 cities will directly benefit. But cities themselves are not just home to the prosperous. Far from it. Some 75 percent of urban citizens live in the bottom income segments, earning an average of 80 rupees (around $1.80) a day. Addressing life in India's cities is clearly not an elitist endeavor but rather a central pillar of inclusive growth.

The cost of not paying attention to India's cities is enormous. Today's policy vacuum risks worsening urban decay and gridlock, a declining quality of life for citizens, and reluctance among investors to commit resources to India's urban centers. We believe that the lack of serious policies to manage urbanization could jeopardize even the 7.4 percent growth rate we assume in our base case, risking high unemployment (see box 1, "Growth assumptions").

MGI conducted a 21-month-long study to understand India's urbanization, to identify what was holding back India's cities and what policy changes could transform the situation on the ground. To create a fact base around which to analyze India's urbanization, MGI developed an econometric model and nine sector models that use baseline forecasts of economic growth to understand the implications of urbanization

at the national, state, and city levels. We supplemented our modeling with in-depth analyses of 15 Indian cities and 6 global cities, and engaged in discussions with more than 100 Indian and international experts, urban economists, and state and local governments.

This process has produced a set of recommendations, the vast majority of which India could implement within five to ten years as long as it musters the required political will.

If India were to implement these recommendations, it could not only transform the prospects of its cities but also boost nationwide economic growth. Estimating the impact is not straightforward, but we believe that carrying out the reforms described in this report has the potential to add as much as 1 to 1.5 percent to national annual GDP growth. This additional growth would bring the nation close to meeting the aspiration voiced recently by the Prime Minister of achieving double-digit growth.

Box 1. Growth assumptions

MGI assumes an 8.0 percent annual GDP growth rate between 2009 and 2018, stabilizing to 7.0 percent between 2018 and 2030. From 2008 to 2030, therefore, annual GDP growth is an average of 7.4 percent. We take this projection from Oxford Economics. Oxford Economics' projections are in the middle range of analysts' estimates, and we regard them as conservative.

India, of course, needs to grow at rates faster than these conservative assumptions. In fact, MGI noted in its 2001 report *India: The growth imperative* that India needs to grow its GDP at close to 10 percent a year to create enough employment for the nation's young and growing population. The report argued that double-digit growth would be possible if India were to push aggressively to remove barriers in product, land, and labor markets. While India has made considerable progress, it needs to do more; the case for further reforms remains as compelling today as it was in 2001. [1]

CITIES WILL BE CENTRAL TO INDIA'S ECONOMIC FUTURE

Cities already matter to India. By 2008, an estimated 340 million people already lived in urban India, representing nearly 30 percent of the total population. Over the next 20 years, urban India will create 70 percent of all new jobs in India and these urban jobs will be twice as productive as equivalent jobs in the rural sector.

As a consequence, MGI projects that the population of India's cities will increase from 340 million in 2008 to 590 million by 2030—40 percent of India's total population (Exhibit 1). In short, we will witness over the next 20 years an urban transformation the scale and speed of which has not happened anywhere in the world except in China.

Urbanization will spread out across India, impacting almost every state. For the first time in India's history, the nation will have five large states (Tamil Nadu, Gujarat, Maharashtra, Karnataka, and Punjab) that will have more of their population living in cities than in villages (Exhibit 2).

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[1] For a discussion of economic reform in India, see *India: The growth imperative*, McKinsey Global Institute, September 2001, and *Accelerating India's growth through financial sector reform*, McKinsey Global Institute, May 2006. Both reports are available at www.mckinsey.com.

Exhibit 1

In MGI's base-case scenario, cities are likely to house 40 percent of India's population by 2030

Urban population
Million

	1991	2001	2008	2030
	220	290	340	590
Total population Million	856	1,040	1,155	1,470
Urbanization rate[1] %	26	28	30	40
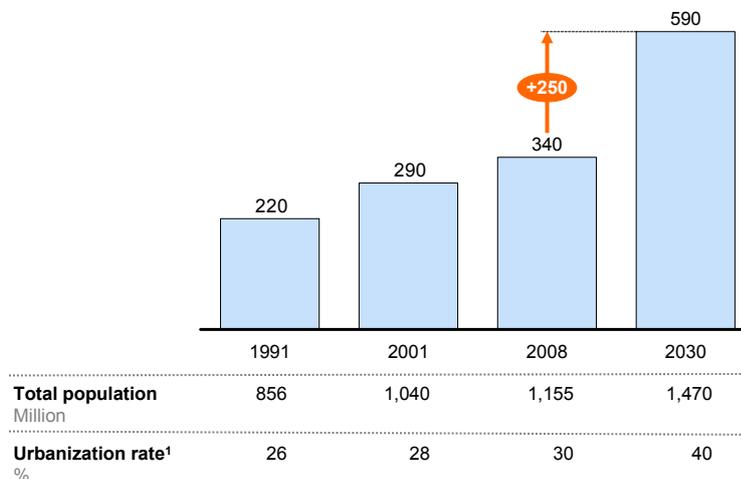
1 Defined as the ratio of urban to total population based on the census definition of urban areas; population >5,000; density >400 persons per square kilometer; 75 percent of male workers in nonagricultural sectors; and other statutory urban areas.

SOURCE: India Urbanization Econometric Model; McKinsey Global Institute analysis

Exhibit 2

Five states are likely to be more than 50 percent urbanized

	Urbanization rate, 2008 %, total population	Urban population Million	Urbanization rate, 2030 %, total population	Urban population Million
Tamil Nadu	53	35.4	67	53.4
Gujarat	44	25.2	66	48.0
Maharashtra	44	47.9	58	78.1
Karnataka	37	21.6	57	39.6
Punjab	36	10.0	52	19.0
Haryana	31	7.5	45	15.2
West Bengal	29	25.8	40	41.5
Kerala	28	9.7	41	15.8
Andhra Pradesh	28	23.4	46	45.5
Madhya Pradesh	25	17.2	32	29.9
Jharkhand	25	7.6	31	12.0
Rajasthan	24	15.5	33	29.5
Chhattisgarh	24	5.8	40	11.7
Uttar Pradesh	21	39.2	26	68.9
Orissa	18	7.0	24	11.0
Himachal Pradesh	12	0.8	20	1.8
Bihar	9	8.9	17	21.3

SOURCE: India Urbanization Econometric Model; McKinsey Global Institute analysis

In a global context, the scale of India's urbanization will be immense. India will have 68 cities with populations of more than 1 million, 13 cities with more than 4 million people, and 6 megacities with populations of 10 million or more, at least two of which (Mumbai and Delhi) will be among the five largest cities in the world by 2030 (Exhibit 3).

Exhibit 3

India will have 68 cities with population of more than 1 million by 2030, up from 42 today

Population by tier
Million

(X) Number of cities
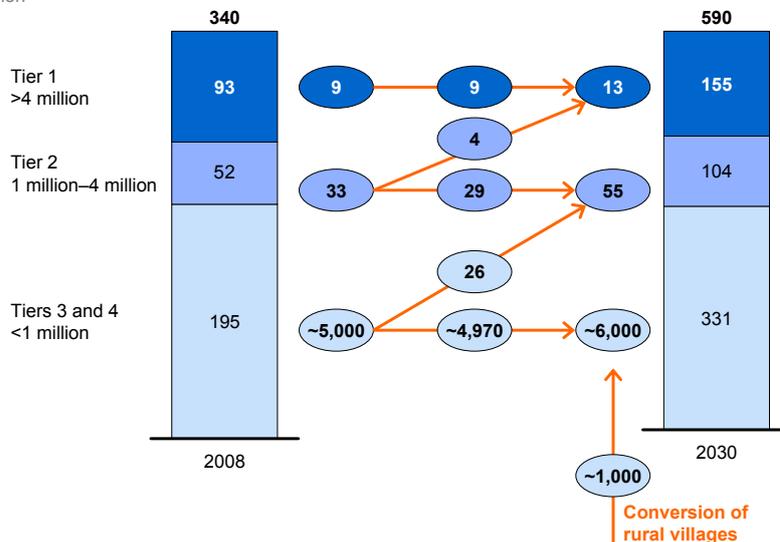
SOURCE: India Urbanization Econometric Model; Census 2001; McKinsey Global Institute analysis

In terms of both population and GDP, many Indian cities will become larger than many countries today. For instance, Mumbai Metropolitan Region's GDP is projected to reach $265 billion by 2030, larger than the GDP of many countries today, including Portugal, Colombia, and Malaysia (Exhibit 4).

As India's cities expand, India's economic makeup will also change. In 1995, India's GDP split almost evenly between its urban and rural economies. In 2008, urban GDP accounted for 58 percent of overall GDP. By 2030, under our base-case economic projections, MGI estimates that urban India will generate nearly 70 percent of India's GDP (Exhibit 5).

Exhibit 4

Thirteen cities will have a population of more than 4 million

	Population in 2030 Million	GDP, 2030[1] $ billion	Per capita GDP, 2030[1] $ thousand
Mumbai (MMR)	33.0	265	8.0
Delhi (NCT)[2]	25.9	296	11.4
Kolkata	22.9	169	7.4
Chennai	11.0	73	6.6
Bangalore	10.1	127	12.6
Pune	10.0	76	7.6
Hyderabad	9.8	67	6.8
Ahmedabad	8.4	68	8.1
Surat	7.4	53	7.2
Jaipur	5.4	24	4.5
Nagpur	5.2	37	7.1
Kanpur	4.2	15	3.6
Vadodara	4.2	35	8.5

1 2008 prices.
2 National Capital Territory; excludes Noida, Gurgaon, Greater Noida, Faridabad, and Ghaziabad.
SOURCE: India Urbanization Econometric Model; McKinsey Global Institute analysis

India's fast-growing and relatively productive cities will drive a near fourfold increase in India's per capita income between 2008 and 2030 (Exhibit 6). The number of households nationwide earning less than 90,000 rupees per year is projected to fall below 20 percent for the first time in India's history, while the number of middle-class households (earning between 200,000 rupees and 1 million rupees a year) will increase more than fourfold from 32 million to 147 million.

Exhibit 5

Cities will account for nearly 70 percent of India's GDP by 2030

Share of India's GDP
%; rupees billion, real 2008
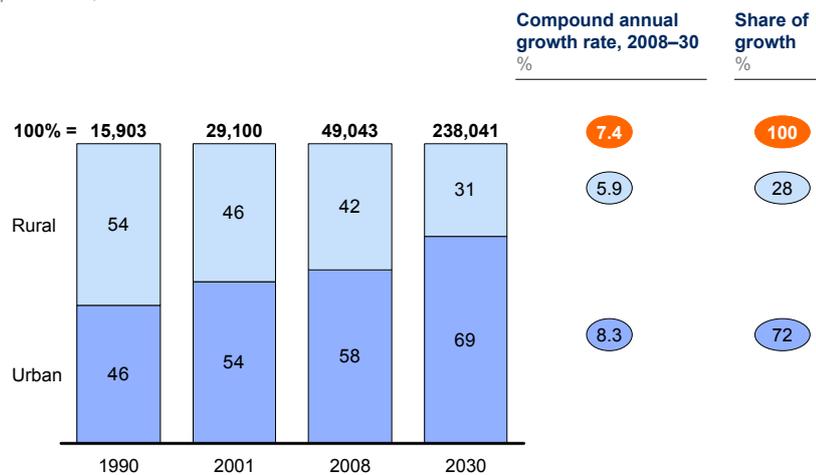
SOURCE: India Urbanization Econometric Model; McKinsey Global Institute analysis

Exhibit 6

Urban India will drive a near fourfold increase in average national income
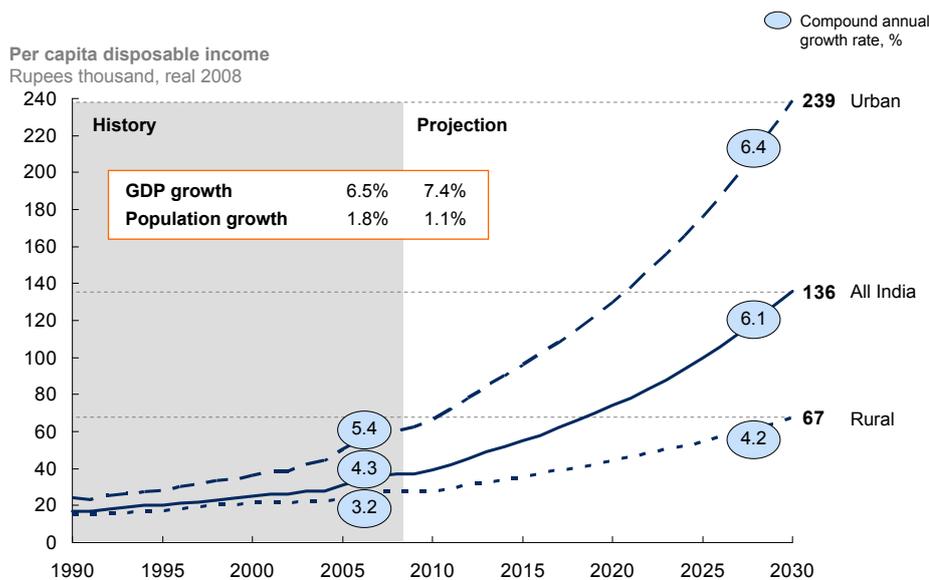
SOURCE: India Urbanization Econometric Model; McKinsey Global Institute analysis

These economic trends will unlock many new growth markets, many of them not traditionally associated with India, including infrastructure, transportation, health care, education, and recreation. There will be eye-popping numbers in the infrastructure sector. For instance, we project that the economy will have to build between 700 million

and 900 million square meters of residential and commercial space a year—equivalent to adding more than two Mumbais or one Chicago every year. In transportation, our projections suggest that, to meet urban demand, India needs to build 350 to 400 kilometers of metros and subways every year, more than 20 times the capacity built of this type by India in the past decade. In addition, between 19,000 and 25,000 kilometers of road lanes would need to be built every year (including lanes for bus-based rapid transit systems), nearly equivalent to the amount of road lanes that have been constructed over the past decade.

CITIES WILL ALSO BE CRITICAL FOR INCLUSIVE GROWTH

Cities are about more than just higher incomes—they also offer the promise of a higher quality of life for a larger number of Indians. This is because the scale benefits provided by cities—in India and around the world—offer the opportunity to significantly lower the cost of delivering services such as water and sanitation. Research indicates that the cost of delivering basic services is 30 to 50 percent cheaper in concentrated population centers than in sparsely populated areas. Given finite public resources, any potential savings could be vital if the government is to meet its aspiration for inclusive growth at affordable prices.

Cities are also vital for the funding of development because they generate the lion's share of India's tax revenue—between 80 and 85 percent.

Moreover, cities have benefits beyond their own boundaries. Our research finds that some 200 million people who live close to cities will benefit because they will enjoy improved access to jobs, markets, and the urban infrastructure. Rural populations adjoining large urban centers today have an estimated 10 to 20 percent higher monthly incomes than the rural average.

HOWEVER, INDIA'S CURRENT APPROACH TO CITIES COULD LEAD TO URBAN GRIDLOCK AND DECLINE

Good cities offer a certain quality of life for their citizens and an attractive proposition for companies. Urban India has attracted investment on the back of strong growth, but is failing many of its citizens. Across all major quality-of-life indicators, India's cities fall well short of delivering even a basic standard of living for their residents (Exhibit 7).

Combine this fact with India's large-scale urbanization and the task is going to become far more onerous. As the urban population and its incomes increase, demand for every key service will increase five- to sevenfold in cities of every size and type. And if India continues to invest in urban infrastructure at its current rate—very low by international comparison—in 20 years' time the urban infrastructure will fall woefully short of what is necessary to sustain prosperous cities.

Life for the average city dweller in India would become a lot tougher. Water supply for the average citizen could drop from an average of 105 liters to only 65 liters a day with a large section of the population having no access to potable water at all. India's cities could leave between 70 to 80 percent of sewage untreated. While private car ownership would increase, shortcomings in the transportation infrastructure have the potential to create urban gridlock—similar to the acute congestion that cripple some Latin American cities (Exhibit 8).

Exhibit 7

The current performance of India's cities is poor across key indicators of quality of life

■ Current (gray)
■ Basic service standard (light blue)
■ Best in class (dark blue)

Water supply quantity
Liters per capita per day

- 105 (Current)
- 150 (Basic service standard)
- 220 (Best in class)

Share of public transportation
%, total trips

- 30 (Current)
- 50 (Basic service standard)
- 82 (Best in class)

Parks and open space
Square meters per capita

- 2.7 (Current)
- 9 (Basic service standard)
- 16 (Best in class)

Sewage treated
%, sewage generated

- 30 (Current)
- 100 (Basic service standard)
- 100 (Best in class)

Solid waste collected
%, total waste generated

- 72 (Current)
- 100 (Basic service standard)
- 100 (Best in class)

Slum population
%, total population in cities

- 24 (Current)
- 0 (Basic service standard)
- 0 (Best in class)

SOURCE: United Nations; press search; City Development Plans; The Energy and Resources Institute; Planning Commission; Census 2001; Central Pollution Control Board; McKinsey Global Institute analysis

Exhibit 8

On current trends, quality of urban services will deteriorate quite sharply by 2030

■ Supply (light blue)
■ Basic service demand (dark blue)

Water supply
Billion liters per day

	2007	2030
Supply	56	95
Basic service demand	83	189

Gap increases 3.5x to 94 billion liters per day

Private transportation
Thousand lane kilometers

	2007	2030
Supply	430	540
Basic service demand	640	980

Gap rises 2x to 440,000 lane kilometers

Sewage
Billion liters per day

	2007	2030
Supply	13	42
Basic service demand	66	151

Gap doubles to 109 billion liters per day

Rail-based mass-transit
Directional route kilometers, kilometers

	2007	2030
Supply	990	1,990
Basic service demand	3,000	8,400

Gap triples to 6,400 kilometers

Solid waste
Million tons per annum

	2007	2030
Supply	51	295
Basic service demand	71	377

Gap rises 4x to 82 million tons per annum

Affordable housing
Demand for houses, million units

	2007	2030
Supply	5.0	12.0
Basic service demand	30.0	50.0

Gap rises to 38 million units

SOURCE: United Nations; Handbook of benchmarks, Ministry of Urban Development; W. Smith, *Transportation Policies and Strategies in Urban India*; National Council for Applied Economic Research; McKinsey Global Institute analysis

INDIAN CITIES NEED $1.2 TRILLION OF ADDITIONAL CAPITAL INVESTMENT BY 2030

Unless it dramatically steps up its construction of the urban infrastructure needed, India will not be able to bridge the gap between demand for services and their provision. In per capita terms, India's annual capital spending of $17 is only 14 percent of China's $116 and 4 percent of United Kingdom's $391. We estimate that India needs to invest $1.2 trillion (53.1 trillion rupees) just in capital expenditure in its cities over the next 20 years, equivalent to $134 per capita per year. That's almost eight times the level of spending today in per capita terms and represents an increase in urban infrastructure

spending from an average of 0.5 percent of GDP today to 2 percent annually. We estimate that more than half of the capital investment is necessary to erase India's infrastructure backlog and the rest to fund cities' future needs. Transportation and affordable housing stand out as the two most capital-intensive sectors (Exhibit 9). The challenge for India will be to ramp up investment in line with economic growth. One trajectory would involve annual spending of around $30 billion through 2015, ratcheting up to $60 billion a year by 2020, and $90 billion annually by 2030.

Capital requirements, of course, vary according to the size of city. Tier 1 and Tier 2 cities would need capital spending of more than $200 per capita per annum (Exhibit 10).

Exhibit 9

Indian cities need capital expenditure of $1.2 trillion over the next 20 years, equivalent to $134 per capita per annum

Funding requirement for urban sectors, 2010–30
$ billion, real 2008

X $ per capita per annum
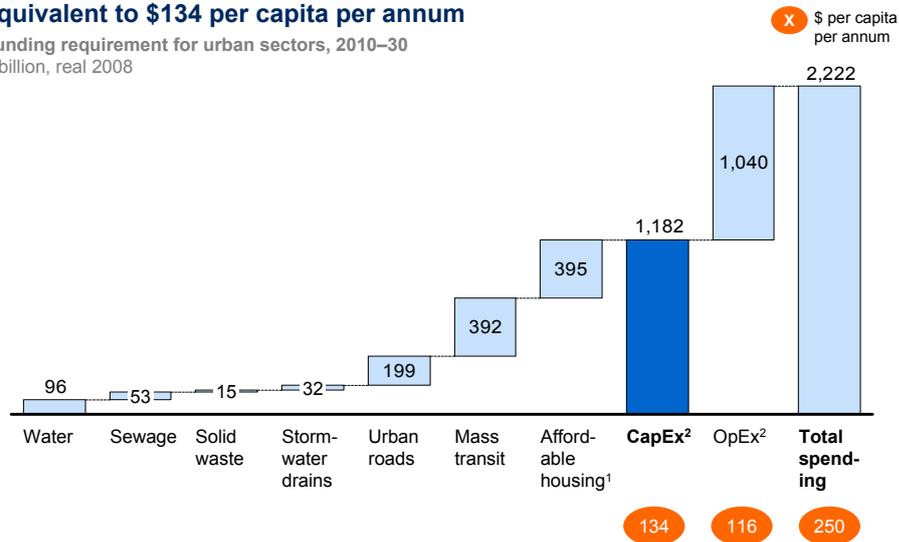
1 Net of beneficiary contribution.
2 CapEx = capital expenditure; OpEx = operational expenditure.
SOURCE: India Urbanization Funding Model; Detailed Project Reports from the Jawaharlal Nehru National Urban Renewal Mission; McKinsey Global Institute analysis

Exhibit 10

Large Tier 1 and 2 cities require per capita investment exceeding $200

Total CapEx requirement, 2010–30
$ billion, 2008 prices

X $ per capita per annum
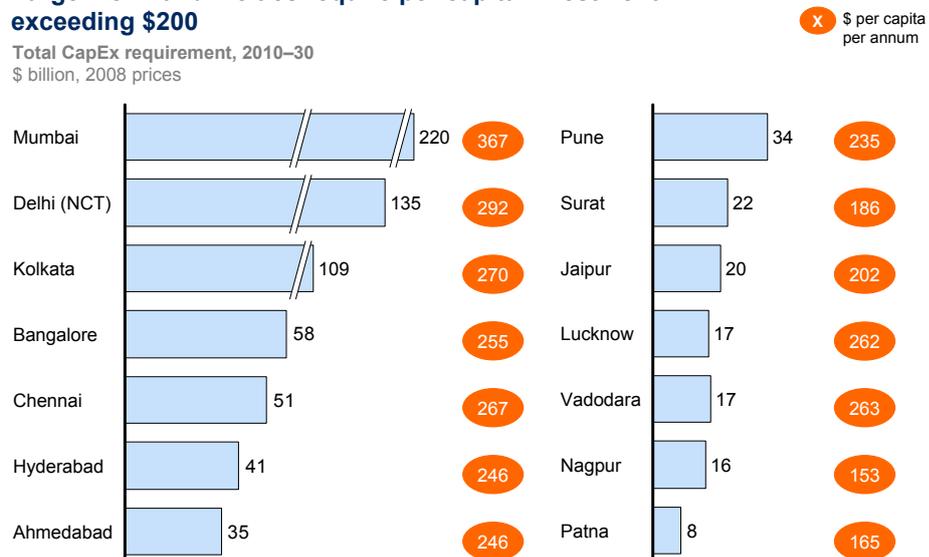
SOURCE: India Urbanization Funding Model; McKinsey Global Institute analysis

INTERNATIONAL EXPERIENCE SUGGESTS IT IS POSSIBLE TO TURN CITIES AROUND IN ONE DECADE

India of course has to chart its own journey. But there are nuts-and-bolts lessons that it can learn from other countries and cities around the world that have faced similar challenges. Many countries, including the United Kingdom, South Africa, and China, have turned around their cities in as little as ten years. Our study of how different countries and cities have approached their urban development shows that five dimensions are important. These are funding, governance, planning, sectoral policies, and shape (Exhibit 11).

Exhibit 11

India's urban operating model should focus on five elements

Elements of operating model

1. Funding
Where will resources come from?

2. Governance
Who will lead and be accountable?

5. Shape
How will the country's population be distributed?

4. Sector policies
- Economic growth
- Affordable housing
- Environmental sustainability
- Transportation

3. Planning
How will cities make and enforce land and space choices?

SOURCE: McKinsey Global Institute analysis

- **Funding.** Sufficient resources for investment to build services for citizens, preferably anticipating demand rather than playing constant catch-up as we see in India, are the bedrock of successful cities. In countries around the world, governments have devised mechanisms to ensure cities have reliable access to funds, internally generated and externally supported. In developed countries, governments have created transparent, formula-based mechanisms (rather than ad-hoc mechanisms as in India) to fund their cities. In the United Kingdom, 70 to 80 percent of city revenues come from central government grants based on a formula (equivalent to $15 billion per year for London excluding spending on social services), but these funds are contingent on achieving certain service outcomes for citizens. In South Africa, central government funds 40 to 50 percent of urban infrastructure investments in large cities and 60 to 70 percent in smaller cities through grants and loans. Developing countries have used land monetization and debt quite extensively to fund its urban infrastructure. China, for example, has given its cities the freedom to raise substantial investment resources by monetizing land assets and also retaining a 25 percent share of value-added taxes (equivalent to $4.5 billion per year for Shanghai). China has also converted many of its big projects into special-purpose vehicles (SPV) to access the debt market. With some exceptions, India has barely utilized these sources of funding.

- **Governance.** Choices that cities make on leadership and management are a second vital component. The most successful governance is a devolved model that empowers local leaders but holds them accountable. Within a

parliamentary democracy, the United Kingdom created an empowered, directly elected mayor of London who sets policies and executes operations through corporatized agencies such as Transport for London. South Africa consolidated previously independent municipalities of Johannesburg into a single metropolitan government under a mayor supported by a professional city manager. China's major cities have powerful political appointees as mayors and use focused SPVs, as in the case of Shanghai's water supply, to build and run the urban infrastructure.

■ **Planning.** Effective and systematic urban planning has been part of the fabric of successful cities for decades. Planning is important to allow cities to make informed trade-offs on their use of scarce resources such as land. London micro-plans every aspect of the city's urban space through a cascaded system. A metropolitan master plan sets out the overall strategy for the economy, mass transit, and affordable housing, for instance, which is then applied in detail at the borough level. For example, London plans 20 years in advance how to deal with peak morning traffic. China, too, has a mature urban planning regime that emphasizes the systematic redevelopment of run-down areas in a way that is consistent with long-range plans for land use and transportation. In all these cities, the head of urban planning is a coveted, high-level position generally directly reporting to the mayor.

■ **Sectoral policies in job creation, public transportation, affordable housing, and climate-change mitigation.** Great cities invest effort in designing policies for the most important sectors that influence the city's economy and quality of life. For example, affordable housing for low-income groups is an important consideration in most cities. Planning mandates in the United Kingdom have generated 20 to 25 percent of all affordable units built over the last decade. South Africa provides free land for houses for its poorest income groups. Singapore provides public housing for more than 80 percent of its population through a dedicated Housing Development Board, using land monetization and interest-rate subsidies to make affordability work. Great cities also invest a great deal of attention in facilitating community networks that foster innovation and drive the soul and ethos of the city.

■ **Shape.** Most countries in the world have had the luxury of urbanizing organically through history and have ended up with different portfolios and distributions of cities. In Germany, for instance, a large number of small and medium-sized cities have grown up in parallel, reflecting Germany's federal structure. We have seen the same in India. China is exceptional in that it consciously fostered a concentrated pattern of urban expansion initially with the development of its dynamic coastal cities. India can proactively shape the overall portfolio of cities in a way that optimizes their economic contributions, investment and land requirements, and the objective of regional equity.

INDIA NEEDS TO CREATE ITS OWN CITY TRANSFORMATION MODEL ACROSS THESE FIVE AREAS

On all five dimensions of urban management, India's record thus far is weak. At root, India's policy makers simply have not acknowledged the importance of an engaged and activist approach to its cities—and the neglect shows. This report makes concrete suggestions in all five areas, most of which we would argue that India can implement within the next five to ten years and thereby transform the prospects of its cities:

1. **Funding: Unlock $2.2 trillion in new urban infrastructure investments, including $1.2 trillion in capital expenditure.** India needs to invest around 53 trillion rupees ($1.2 trillion) in urban infrastructure capital over the next 20 years, an increase from 765 rupees per capita ($17) to 6,030 rupees per capita ($134) per year. India's annual spending would therefore need to increase nearly eightfold on a per capita basis. The challenge of bridging this gap is tough but doable (Exhibit 12). Consistent with the international examples we have mentioned, we see four sources of funding that India should tap into, to a far greater extent than today: Monetizing land assets; collecting higher property taxes, and user charges that reflect costs; debt and public-private partnerships (PPPs); and formula-based government funding. Contrary to popular thinking, the largest Indian cities can generate 80 to 85 percent of the funding they require from internal sources (Exhibit 13). One example of what can be done in a large city is the metropolitan development authority in Mumbai, which plans to spend 1 trillion rupees ($22 billion) over the next five years on infrastructure essentially by leveraging land sales in the Bandra Kurla area and through PPPs. However, internal funding alone will not be enough, even in large cities. The rest has to come from the central and state governments based on a systematic formula rather than ad-hoc grants. For large cities with deep economies, this might mean allowing them to retain 18 to 20 percent of goods and services tax (GST) revenues. This is consistent with the 13th Central Finance Commission's (CFC) assessment that GST, a consumption-based tax that creates local incentives for growth, is well suited for direct allocation to the third tier of government. In fact, the CFC has already given legitimacy to direct allocation by approving 4,700 crore rupees (around $1 billion) in annual grants to cities. For smaller cities (Tiers 3 and 4), however, a better options would be to give guaranteed annual grants totaling an estimated $20 per capita until their economies reach scale.

Exhibit 12

India needs to access four key extra funding streams to pay for urbanization

$ per capita per annum, real 2008

Capital expenditure

58	26	43	127	134

Monetizing land | Debt and PPP | 20% GST transfer[1] | Total CapEx | CapEx required

① ② ③

Operating expenditure

36	76	112	116

Property tax | User charges | Total OpEx | OpEx required

④
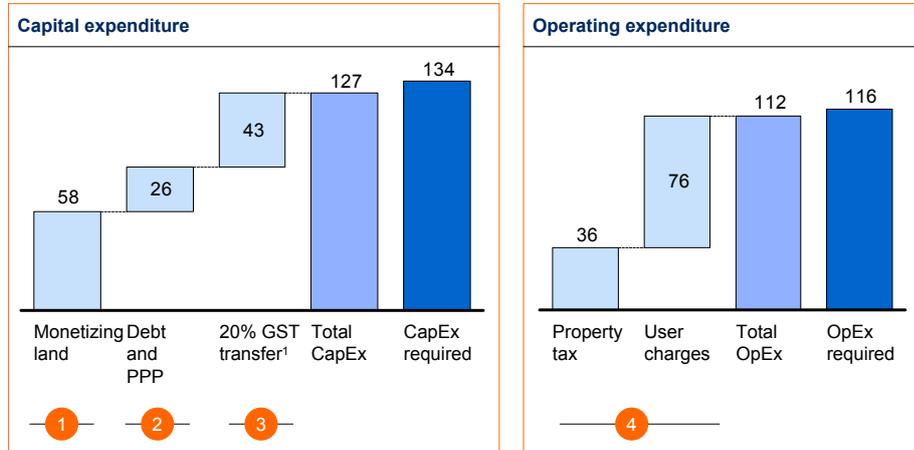
1 Goods and services tax.
SOURCE: India Urbanization Funding Model; McKinsey Global Institute analysis

Exhibit 13

Tier 1 and Tier 2 cities can generate 80 to 85 percent of their funding needs internally

Funding requirement and internal potential
$ per capita, real 2008

☐ CapEx ☐ OpEx

Tier 1

510 (222 / 288) → 447 ↓ -12%
Required | Internal generation

Tier 2

215 (82 / 133) → 171 ↓ -20%
Required | Internal generation

Tiers 3 and 4

154 (58 / 96) → 81 ↓ -47%
Required | Internal generation
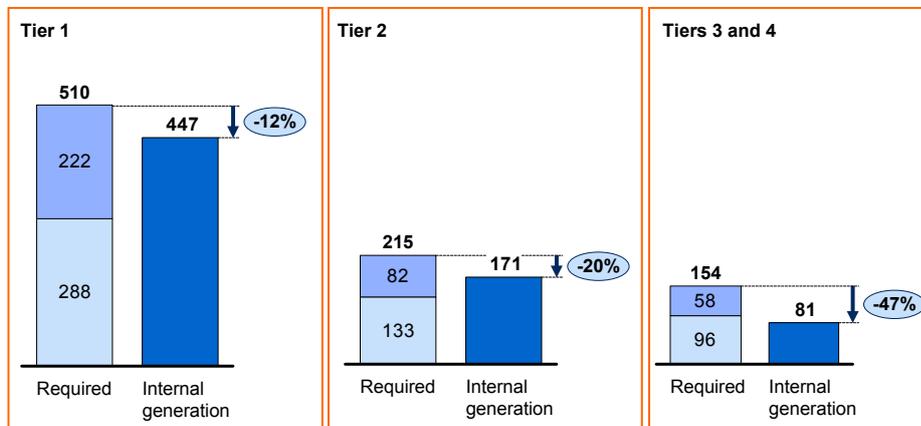
SOURCE: India Urbanization Funding Model; City Development Plans; McKinsey Global Institute analysis

2. **Governance: Empower city administrations (municipal and metropolitan) and modernize service delivery structures.** In 2030, India's largest cities will be bigger than many major countries today. But India's governance of cities is muddled and ineffective and nowhere near ready to face this challenge. As an example, India's large cities are still governed by bureaucrats who can be transferred out of office at short notice. This is clearly untenable. This arrangement is in sharp contrast to large cities elsewhere that have empowered mayors with long tenures and clear accountability for the city's performance (Exhibit 14). There are good examples within India, too. Delhi has quasi-statehood status. Kolkata's modified mayor-commissioner model provides a good starting point for reforming municipal structures in India with its combination of an empowered political executive and administrative support from

a technocrat. In the medium to long term, metropolitan authorities should be led by directly elected mayors. In addition to accountable and empowered mayors for its cities, India needs to clearly define the relative roles of its metropolitan and municipal structures for an estimated 20 metropolitan areas. Very few cities in the country have functioning metropolitan authorities. With cities growing beyond municipal boundaries, we contend that having fully formed metropolitan authorities with clearly defined roles is absolutely essential for the successful management of large cities in India (Exhibit 15). And Indian cities need to rethink how they deliver services to their citizens. Currently, cities deliver services through archaic and bureaucratic departments. India must move to corporatized agencies (BEST, Mumbai's bus and electricity agency is one such example) that have specialized internal skills and the ability to make quick decisions. The ability of these agencies to tap selectively into private-sector expertise through public-private partnerships will represent an equally compelling opportunity to improve services and introduce more transparency in delivery. Candidates for such partnerships include waste collection, water distribution, and operations of selected public transportation routes where public-private partnerships can account for as much as 30 to 40 percent of operations and maintenance budgets in large cities. Last, India needs to build technical and managerial depth in its city administrations. In the Indian Civil Services, India has a benchmark for how to build a dedicated cadre for governance. India now needs to create an equivalent cadre for cities, as well as allow for lateral entry of private-sector executives.

Exhibit 14

India is among a small group of countries that do not have elected executives for their large metropolitan areas

◯ Elected or empowered mayor

Rank	City	2010 population, million	Metropolitan leaders	Nature of national political system
1	Tokyo	31	◯	Parliamentary
2	Seoul	24	◯	Presidential
3	Jakarta	24	◯	Presidential
4	Mumbai	24	◯	Parliamentary
5	Mexico City	21	◯	Presidential
6	New York	20	◯	Presidential
7	Sao Paulo	20	◯	Presidential
8	Shanghai	19	◯	Communist
9	Kolkata	18	◯	Parliamentary
10	Osaka	18	◯	Parliamentary
11	Delhi	17	◯	Parliamentary
12	Cairo	16	◯	Presidential
13	Moscow	15	◯	Semi-presidential
14	Manila	14	◯	Presidential
15	Los Angeles	13	◯	Presidential

SOURCE: www.citymayors.com; McKinsey Global Institute analysis

Exhibit 15

India can adopt a mixed model of governance at the metropolitan and local level

☐ Departments
☐ Corporatized agencies

Metropolitan level
Directly elected metropolitan mayor in medium term

Metropolitan Planning Committee

Executive Committee

Metropolitan Commissioner

| Economic development | Regional planning | Transport | Housing | Public Health | Education | Environment |

Municipal level

Mayor

Mayor-in-Council

Municipal Commissioner

- Mayor elected by councillors for a five-year period
- Executive responsibility with Mayor

| Housing | Transport | Water supply and sewage | Solid-waste management | Planning | Health care | Education |

Board

Gen. Mgr.

Agency

SOURCE: McKinsey Global Institute analysis

3. **Planning: Overhaul metropolitan and municipal plans, planning systems and planning capabilities.** India's planning is in a very poor state. On paper, India does have urban plans—but they are esoteric rather than practical, rarely followed, and riddled with exemptions. For example, no city in India has a proper 2030 transportation master plan, nor has any of them allocated enough space and appropriate zoning for affordable houses. India needs to make urban planning a core, respected function, investing in skilled people, rigorous fact base, and innovative urban form. Putting this right should not be difficult. This can be done through a "cascaded" planning structure in which large cities have 40-year and 20-year plans at the metropolitan level that are binding on municipal development plans (Exhibit 16). Central to planning in any city is the optimal allocation of space, especially land use and Floor Area Ratio (FAR)[2] planning. Both should focus on linking public transportation with zoning for affordable houses for low-income groups. These plans need to be detailed, comprehensive, and enforceable, and exemptions should be rare rather than the norm. By revamping its planning system in this way, India could save more than 6 million hectares of potentially arable land over the next 20 years (Exhibit 17).

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2 Floor Area Ratio (FAR) is the ratio of building floor space to the land area the building occupies.

Exhibit 16

India should consider a cascaded planning system

|	Plan content
Metropolitan Planning Committee / **Metropolitan Authority** / **Planning Department** / **Technical Planning Board** — **Concept plan** / **Master plan**	■ 40-year socioeconomic and population forecasts ■ Economic development strategy ■ High-level land use ■ Major transit projects

Concept plan — Plan content:
- 40-year socioeconomic and population forecasts
- Economic development strategy
- High-level land use
- Major transit projects

Master plan — Plan content:
- 20-year socioeconomic forecasts
- Economic development strategy
- Broad ward-level land-use plan and FAR including areas for regeneration and greenfield expansion
- Key projects and policies with a sequencing and funding plan in
  - Metropolitan transportation
  - Affordable housing
  - Education and health care
  - Environment and climate-change mitigation

Development plan — Plan content:
- 20-year detailed plot-level land-use plan
- Key projects and policies including sequencing and funding plan in
  - Local transportation
  - Water, sewage, solid waste, storm-water drains
- Urban form and design norms

Left column boxes:
- Metropolitan Planning Committee
- Metropolitan Authority
- Planning Department
- Technical Planning Board
- Municipality
- Technical Planning Board
- Planning Department

SOURCE: McKinsey Global Institute analysis

Exhibit 17

India could potentially save 6.2 million hectares of potentially arable land through effective planning for land use

Demand for urban land
Million hectares

2007: 7.5
2030 Poor land-use planning: 18.6
2030 Effective land-use planning: 12.4

-6.2

Effective land-use planning, especially in central business districts and transit corridors, can potentially mitigate loss of arable land
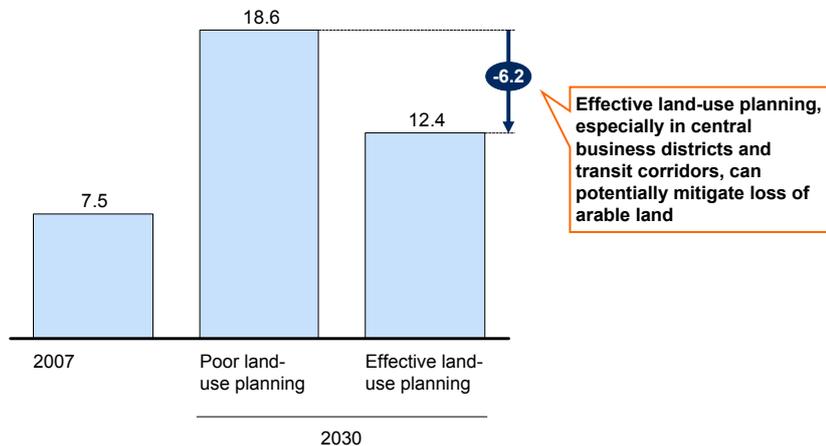
SOURCE: McKinsey Global Institute analysis

4. **Sector policies: Craft policies for key urban sectors, especially affordable housing for low-income groups and environmental sustainability.** All good cities craft policies in four critical areas: job creation, affordable housing for low-income groups, public transportation, and, of late, climate-change mitigation. India has largely failed to embrace the need for this dedicated policy attention within cities. We highlight two such sectors in this report: Affordable housing and climate-change mitigation. Affordable housing is a particularly critical concern for low-income groups; in the absence of a viable model that caters to their needs, India will see the continued proliferation of slums across the country. India faces

the mammoth task of providing affordable homes to an estimated 38 million households by 2030 who will not be able to afford a market-priced house. No other country has provided affordable housing on this scale. And, given India's current stage of household income, affordability itself is a major issue (Exhibit 18). Nevertheless, MGI's analysis suggests that India can meet the challenge through a set of policies and incentives that can bridge the gap between price and affordability (Exhibit 19). This will enable a sustainable and economically viable affordable housing model for both government housing agencies and private developers. MGI's detailed analyses show that a combination of higher FAR of up to 1 on land, an infrastructure grant to the municipal body, and interest subsidies can together create a surge in affordable housing stock. India also needs to encourage rental housing as an option particularly for the poorest of the poor, who may not be able to afford a home even with these incentives. MGI recommends that 30 percent of all affordable housing should be available to rent. Other potentially useful measures could include a favorable tax regime and a national mortgage guarantee fund. If India adopts a broad swath of such measures, it could significantly step up the building of affordable housing as much as ten times, to 2 million units a year (Exhibit 20). Similar policies need to be crafted for jobs and public transportation.

Exhibit 18

Affordability is an acute problem among the lower and middle-income groups

TIER 2 EXAMPLE (2010)
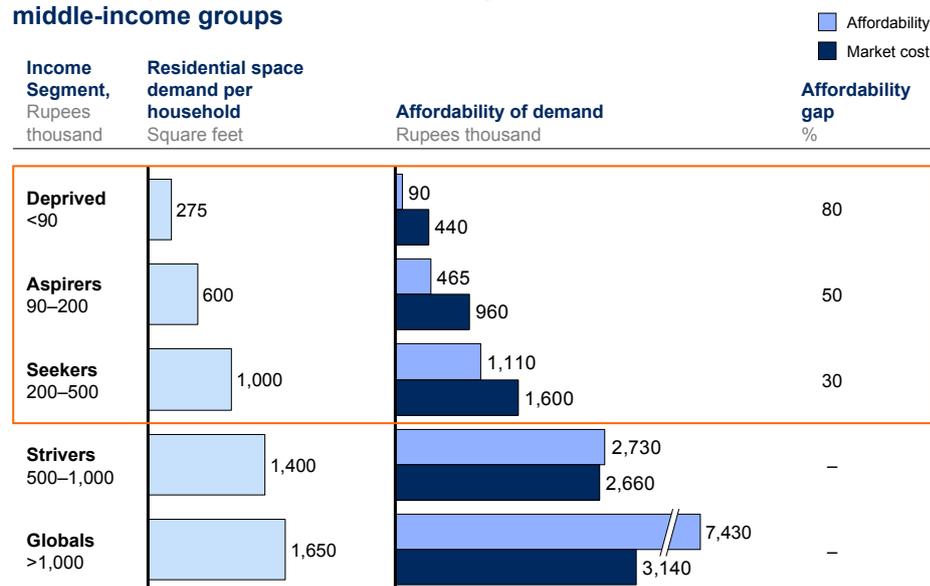
Affordability

Market cost

Income Segment, Rupees thousand	Residential space demand per household Square feet	Affordability of demand Rupees thousand	Affordability gap %
Deprived <90	275	90 / 440	80
Aspirers 90–200	600	465 / 960	50
Seekers 200–500	1,000	1,110 / 1,600	30
Strivers 500–1,000	1,400	2,730 / 2,660	–
Globals >1,000	1,650	7,430 / 3,140	–

SOURCE: India Urbanization Affordable Housing Model; McKinsey Global Institute analysis

Exhibit 19

A combination of incentives and subsidies can bridge the affordability gap

TIER 2 EXAMPLE

Rupees thousand
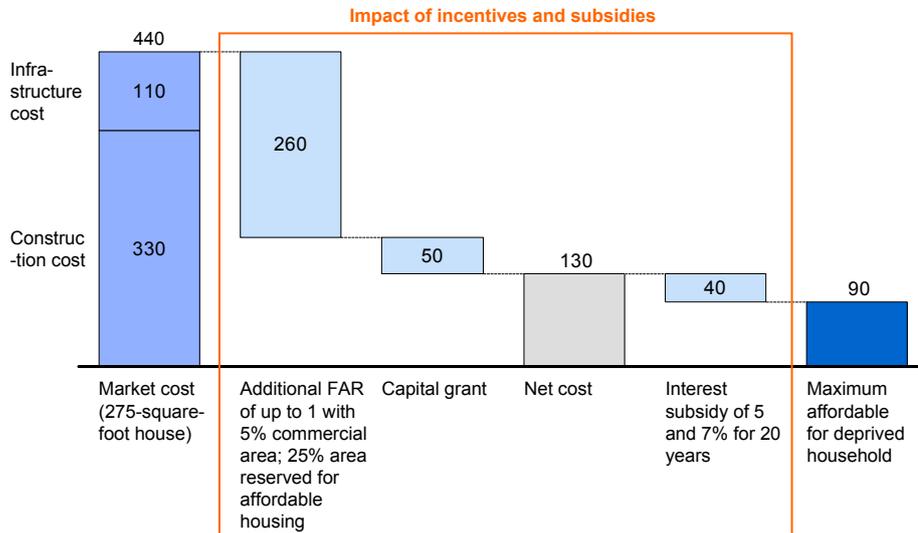
Impact of incentives and subsidies

Infra-structure cost	110				
	440	260			
Construc-tion cost	330		50	130	40	90

Market cost (275-square-foot house)	Additional FAR of up to 1 with 5% commercial area; 25% area reserved for affordable housing	Capital grant	Net cost	Interest subsidy of 5 and 7% for 20 years	Maximum affordable for deprived household

SOURCE: India Urbanization Affordable Housing Model; McKinsey Global Institute analysis

Exhibit 20

With these measures, private sector and direct government construction can trigger a surge in affordable housing stock

Million households
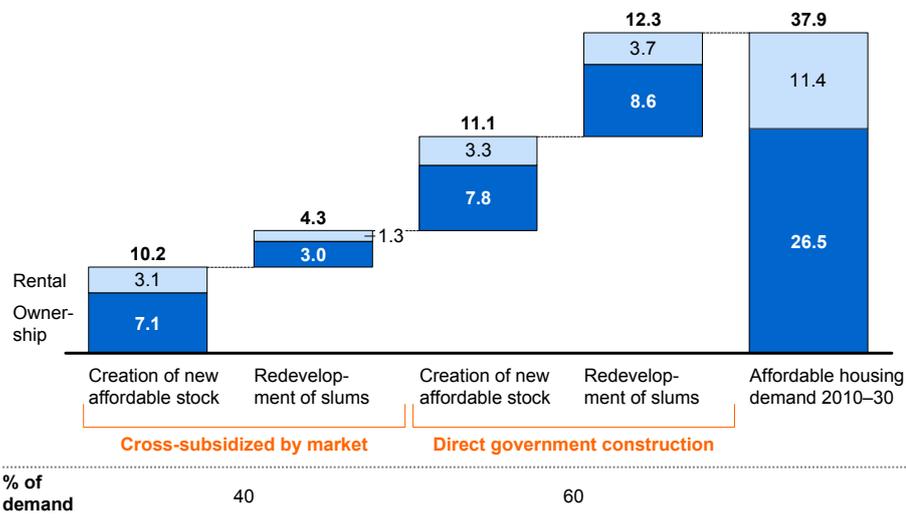
				12.3	**37.9**
			11.1	3.7	11.4
		4.3	3.3	8.6	
	10.2	3.0	7.8		26.5
Rental	3.1				
Owner-ship	7.1	1.3			

Creation of new affordable stock	Redevelop-ment of slums	Creation of new affordable stock	Redevelop-ment of slums	Affordable housing demand 2010–30

Cross-subsidized by market | **Direct government construction**

| % of demand	40	60

SOURCE: India Urbanization Affordable Housing Model; McKinsey Global Institute analysis

5. **Shape: Shape the distributed urbanization portfolio through focused approaches to different tiers of cities and fostering inter city connectivity.**
Urban India today is "distributed" in shape—with a diverse range of large and small cities spread widely around the nation. India should continue to aim for a distributed model of urbanization because this suits its federal structure and helps to ensure that migration flows are not unbalanced toward any particular city or cities. However, India should proactively shape its portfolio by taking four actions. First, India should invest in its Tier 1 cities (e.g., Mumbai, Delhi, and

Chennai) and large Tier 2 cities (e.g., Patna, Coimbatore, and Cuttack) so that they can outperform the national growth average as China's largest cities have done. Pre-investing in emerging Tier 2 cities also makes sense so that, as these cities expand, they do not emulate the trajectory of urban decay of today's Tier 1 cities. Second, India should single out, and build on, its existing specialist cities excelling in sectors such as tourism and manufacturing (e.g., Agra and Durgapur), as they contribute disproportionately to job creation and taxes. Third, India should ensure that services in Tier 3 and 4 cities, that have posted growth of more than 7 percent despite receiving only $12 per capita in investments in recent years, are brought up to a basic standard (Exhibit 21). Fourth, India should think selectively about new cities. MGI research concludes that India could build at least 25 new satellite cities near today's largest Tier 1 and 2 cities to accommodate populations in each of up to 1 million people. Although building new cities is generally more expensive (on a per capita basis) than renewing existing cities, such an effort will act as a benchmark and a model for well-planned, environmentally sustainable world-class cities while helping ease some of the strains of rapid urbanization.

Exhibit 21

Smaller cities have historically posted robust growth despite receiving little funding support while larger cities need to deliver more

	Municipal spending $ per capita per annum	Tier growth rates % India 1999–2006	China 2000–06
Tier 1	130	8.3	16.4
Tier 2	38	8.4	14.7
Tiers 3 and 4	12	7.5	11.3
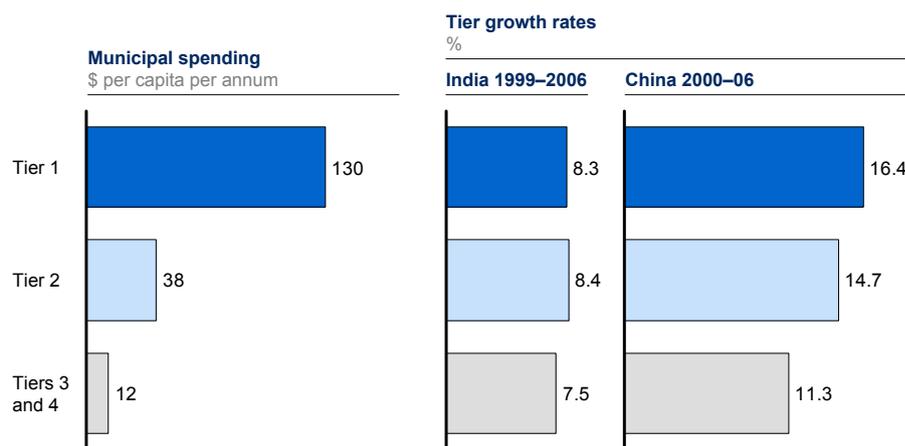
SOURCE: India Urbanization Econometric Model; City Development Plans; McKinsey Global Institute analysis

URBAN REFORM NEEDS POLITICAL WILL, VOCAL CITIZENS, AND THE ACTIVE PARTICIPATION OF THE PRIVATE SECTOR

India is in a state of deep inertia about the urgency and scale of urban reform. Despite the perilous state of many Indian cities, there seems to be comfort with the status quo, resistance to change, and a lack of recognition of the urgent need for change.

With the 74th Amendment to India's constitution and the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), India took the first steps toward urban reforms. However, this is not enough. Our recommendations (see box 2, "Summary of recommendations") attempt to translate the intent and spirit of the amendment into the next generation of reforms that can help local governments to improve how they function.

To make this happen, MGI contends that the central government has to play a catalytic role. This is despite the fact, according to India's constitution, urban affairs

are in the realm of the state governments—and they have historically been reluctant to give up powers to cities. Without a political push from the central government accompanied by a supporting package of incentives, change is unlikely to happen.

One way to make a start is to substantially strengthen and modify the JNNURM by considering three changes. First, the central government should triple its annual funding for the JNNURM to 30,000 crore rupees ($6.7 billion) to give more funding to its current list of cities and also create a special allocation for Tier 3 and 4 cities. Second, using this increased funding, the JNNURM should create an incentive fund of around 8,000 crore rupees ($1.7 billion) for states that are willing to undertake the next generation of urban reforms. Our discussions indicated that several cities and states are ready for this. Third, while the JNNURM has had some success in building physical capacity, it needs to invest more in financial and human capacity. Many states and cities have been unable to leverage available funds or implement reforms because of a lack of local capacity and technical expertise. The central government can help by creating specialist teams to assist state and city governments, creating regional centers of excellence, and championing three to four large-scale urban management institutes. These initiatives could be funded through an allocation of 2,000 crore rupees ($0.4 billion) within JNNURM.

Additionally, the central government should allocate 15,000 crore rupees annually ($3.3 billion) to the Rajiv Awas Yojana (RAY), aimed at making India slum-free and currently being considered by the central government, for low-income affordable housing and the eradication of slums.

States and cities should not wait for such change. Progressive chief ministers and city leaders should recognize that starting early on the urban transformation will give them competitive advantage, attract investment, and create jobs—getting them ahead of the curve. For such states, one approach to urban reform would be to immediately create an enabling framework for funding, planning, and governance elements of the operating model we have described, and then to apply the reforms in stages starting with a few cities at a time.

Citizens will also have a critical role to play. Residents of India's cities need to understand the complexity of the urban transformation and gain a perspective on the actions available to them to create real results on the ground. The focus of citizens needs to shift from small, reactive, noninstitutional demands to a call for fundamental institutional change. They need to stop asking their political leaders just to "fix the roads" and instead also ask them to "fix the institutions that fix the roads."

Finally, for any private institution whose interests are linked with India's economic future, this is a topic of vital importance. The ability of cities to create thriving living conditions, facilitate networks that foster innovation, and create the basis for attracting talent will be crucial to the ability of private companies to house themselves in productive settings that trigger growth. As investors, companies therefore have an obligation to demand urban transformation as a prerequisite for investment—and

lobby a great deal more vigorously than they have in the past to drive change. At the same time, they can help transform India's urban landscape by bringing their expertise and capacity to execute the opportunities unlocked by reforms.

☐ ☐ ☐

It is easy to be skeptical about India's ability to transform its cities. But we are optimistic that it can be done. The recent past shows that once India engages in a national discussion, as it did on economic reforms, action soon follows. The same now urgently needs to happen in the case of urban reform. Nothing less than the sustainability and inclusiveness of India's economic growth are at stake.

Box 2. Summary of recommendations

1. Funding

— Spend $2.2 trillion in cities over the next 20 years, including $1.2 trillion in capital investment (eightfold increase in spending from $17 per capita per year today to $134)

— Make Tier 1 and Tier 2 cities near self-sufficient (around 80 to 85 percent) through monetizing land assets, maximizing property tax collections, recovering O&M costs through user charges, and pushing for greater leveraging of debt and private participation

— Create a sufficiently funded grant system from state and central governments by tripling annual JNNURM allocation in the short term and sharing 18 to 20 percent of GST with cities in the medium term

— Give an additional support to weaker Tier 3 and 4 cities from the central and state governments of at least $20 per capita per year

— Distribute government grant and land revenues equally between municipal and metropolitan authorities

— Create the enabling mechanisms such as a "ring-fenced" city development fund, an effective accounting system and a vibrant municipal bond market

2. Governance

— Devolve real power to cities by implementing the 74th constitutional Amendment in full

— Institutionalize metropolitan structures for at least 20 urban agglomerations with multiple municipalities

— Implement the modified mayor-commissioner system in at least 35 to 40 cities

— Allow for directly elected mayor for metropolitan areas in the medium term; rely on metropolitan authorities in the short term under the Metropolitan Planning Committee (MPC)

— Modernize service delivery structures, including corporatization of select municipal functions and leveraging targeted private-sector participation

— Improve local government capacity through creating a new city cadre and allowing lateral hires from the private sector

— Drive transparency and accountability in city government through city charters, MOUs between mayors and agencies, and through a state-level urban regulator

3. Planning

— Devolve the planning function to local governments by empowering MPCs to create statutory metropolitan plans and transferring local urban planning powers to municipalities

— Execute an integrated, cascaded planning system consisting of 20-year master plans at metropolitan and municipal levels containing calculations of predicted population, GDP, required transportation, affordable housing and other urban infrastructure as well as land use and FAR norms

— Create well-resourced planning organizations at metropolitan and municipal levels and innovate with latest planning technologies and models

— Create tight execution and enforcement mechanisms for city plans with a transparent system for exemptions and sufficient public participation

— Build sufficient urban planning capacity by building six to eight world-class urban-planning institutes to train 3,000 to 4,000 planners annually

4. Sectoral policies: Affordable housing and climate-change mitigation

Affordable housing

— Encourage metropolitan governments and municipalities to plan for affordable housing and allocate land dedicated for this purpose

— Mandate 25 percent area for affordable houses in new developments above an acre, with associated incentives

— Offer a basket of incentives (additional FAR of up to 1, capital grant, utilization of 5 percent incentive area for commercial use, interest rate subsidies and favorable tax regime) to developers and state housing boards to trigger new affordable units and slum redevelopment

— Create flexible affordable housing solutions with 30 percent rentals and 5 to 10 percent dormitories

— Create a national mortgage guarantee fund to spur lending to low-income groups with an initial corpus of 15 billion rupees and capital adequacy ratio of 12 to 15 percent

— Consider creating a corporatized agency for affordable housing within metropolitan authorities and rental management companies to operate and maintain rental stock

Climate-change mitigation

— Reduce vehicle emissions by nearly 100 million tonnes of CO_2 equivalent through greater use of public transportation, improving vehicle efficiency, and use of electric vehicles

— Reduce emissions by nearly 310 million tonnes CO_2e by reducing energy consumption in buildings, appliances, lamps and street lights

— Improve city design to develop energy-efficient clusters to abate nearly 30 million tonnes CO_2e

5. Shape

— Facilitate distributed urbanization

— Renew Tier 1 cities through a substantial new capital investment program of $288 per capita annually

— Preemptively shape the trajectory of the largest Tier 2 cities, through $133 per capita investments a year

— Nurture top 100 specialist cities focused on sectors such as tourism and manufacturing through a capital investment program of $96 per capita a year

— Raise the quality of life to at least a basic standard in smaller Tier 3 and 4 cities through minimum government support of $20 per capita per year

— Facilitate 20 to 25 new cities near the largest 20 metropolitan areas by providing adequate infrastructure such as water, electricity, and transportation links

— Seed future urbanization by building 19 transportation corridors linking Tier 1 and Tier 2 cities

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