

Xi'an: World's First "World Class City"

BASIC INFORMATION ¹		World Rank ²	Similar to			
Urban Area Population: 2000	3,000,000	86	Melbourne, Phoenix, Chongqing, Fortaleza			
Urban Land Area: Square Miles: 2000	180	187	Algiers, Vienna, Winnipeg			
Urban Land Area: Square Kilometers: 2000	465	107				
Population per Square Mile	16,700	200	Shizuoka, Veracruz,			
Population per Square Kilometer	6,450	288	Sao Paulo			
Note: Caution should be employed on city population figures in China because of significant definitional differences. See Cities in China and China City Population Figures: Cautions below.						

12 September 2007

The Setting

Xi'an is the capital of Shaanxi province, in the interior of northern China. Xi'an is located nearly 600 miles (950 kilometers) from Beijing, the national capital and approximately the same distance from the east coast (Pacific Coast). Few urban areas in the world have a history as long or as significant as Xi'an.

Pronouncing Xi'an, Shaanxi and Shanxi

Xi'an is pronounced "ZHEE-OHN". Bookstore clerks made sure I was aware of the right pronunciation as I sought (in vain) a better map than was available at the hotel. Having successfully mastered the name of the city, I remain completely baffled by the pronunciation of two similarly named adjacent provinces. Xi'an is the capital of Shaanxi. To the east is the province of Shanxi, where the Huang Ho (Yellow River) turns north to form the border between Shaanxi and Shanxi. At this point, the We Hei River meets the Huang Ho, draining the valley in which Xi'an is located 100 miles (160 kilometers) upstream.

Fortunately, it is easy to differentiate between the pronunciation of the capitals of Shaanxi and Shanxi. Xi'an is the capital of Shaanxi. Taiyuan is the capital of Shanxi. It seems like the only way to reliably tell the difference between the sound of the two provinces is to inquire as to the capital --- by asking if it is the Shaanxi of Xi'an or the Shanxi of Taiyuan. The "a" sound is held just a bit longer in Shaanxi, but can be hard to comprehend.

Shaanxi province covers approximately 80,000 square miles (200,000 square kilometers) and has a population of just under 40,000,000. This is more people than live in California, in barely one-half the land area.

¹ For definitions of urban terms see http://www.demographia.com/db-define.pdf.

² Among urban 707 areas with more than 500,000 population (http://www.demographia.com/db-worldua.com, 2007.03 edition)



Historic Xi'an

Xi'an served intermittently as the national capital of China between 200 B.C. and 900 A.D. As a result it is one of the most historic places in the nation.

Xi'an has probably had as many population "ups and downs" as any city in history. According to Tertius Chandler in *Four Thousand Years of Urban Growth*, Xi'an was the world's largest urban area in 200 B.C. with 400,000 population. Chandler also indicates that Xi'an was the world's second largest urban area from 800 B.C. to 600 B.C., following Thebes, with more than 50,000 residents. Xi'an was also generally second in the World during much of the period from 600 to 900 A.D (when it trailed Baghdad).³ Probably no urban area has appeared more frequently among the largest in the world as Xi'an. Over a period of nearly 2,000 years, Xi'an was frequently among the largest in the world.

According to some reports, by 700 A.D. Xi'an (then called Chang'an) reached an early population peak of approximately 1,000,000 population.⁴ This would have made Xi'an the world's first urban area to reach 1,000,000. In a world where every urban area from Des Moines to Portland and Wichita seeks to establish itself as a "world class city," Xi'an may have been the world's first "world class city."

The Xi'an Wall

Today Xi'an is both a historic city and a modern metropolis. The city wall, fully intact, encompasses about 4.5 square miles (11 square kilometers), with a perimeter of nearly 9 miles (14 kilometers). The wall was built in

³ If Xi'an was not the first urban area in the world to reach 1,000,000 population, then Baghdad was.

⁴ It took more than another 1000 years for any world urban area to reach and maintain a population of more than 1,000,000 (London reached that figure in 1811 and has not fallen below it. Beijing reached 1,000,000 in the early 19th century, but fell below in the late 19th century).

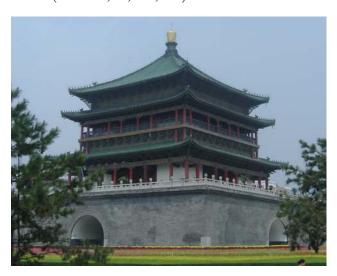
the 14th century, but has been substantially rebuilt throughout its history (Figure). The present wall (Plates 2-8, 35, 38, 39, 41, 66-68, 106-149, 200-201, 206-208) replaced earlier walls, which enclosed even larger areas.

The wall is so well preserved that it is a relatively smooth roadway. Bicycles are rented for the purpose of traveling the complete route around the top of the wall, at a cost of 20 RMB (less than US\$3.00).

The ride around the wall provides good vistas of the old city, much of which is really not that old and longer vistas to the historic Bell Tower that is the center (though not at the center) of the old city. The wall bike ride or walk also provides a lesson in economics. Tea based drinks that sell for 3 RMB everywhere else in the city are sold for 10 RMB on the wall, demonstrating what happens to prices in the absence of competition (no alternatives). This could provide a valuable object lesson for the large number of economic illiterates in urban planning (and at least one state minister of housing and the arts in Australia), who do not understand how allowing the market to be cornered raises land (and house) prices. It's why the peanuts always cost more at the baseball game.

Xi'an: Inside the Wall

The main tourist district is inside the Xi'an wall, with many hotels, shopping centers and other commercial activities. The walled city is divided into four precincts by the two main wide streets, which cross at the Bell Tower (Plates 50, 51, 184, 187). The Bell Tower is located approximately one-quarter of the distance from the



South Gate to the North Gate and approximately mid-way between the East Gate and the West Gate. To the north of the Bell Tower is North Street, to the south, South Street, to the west, West Street and to the east, East Street. The Drum Tower (Plates 56 & 182) is on the north side of West Street, two blocks west of the Bell Tower.

In the 19th century, most of the population was within the present city walls. With the coming of the railroad, some development started to the north, since it was easier to build the rail line along the outside of the north wall than to try to bring the route to inside the wall. During the 1950s, some universities were established to the south of the walled city.

There are now architectural controls along the major tourist streets (examples are West Street and South Street), such that newer buildings exhibit a traditional Chinese design --- or at least have such features (Plates 59-62, 183, 186). Moreover, major buildings are lit along at night from the Bell Tower and along West Street, providing the impression of a miniature Las Vegas (Plates 182-187)

Xi'an: Outside the Wall

When the economic expansion of the 1980s got underway, Xi'an began to suburbanize rapidly and now covers an area 25 times that of the walled city. There are two principal development zones, including a high-tech zone to the southwest and an industrial zone to the north. Beyond North Gate there are rows of skyscrapers on each side of North Street, conveying an impression similar to that of Yonge Street in the North York district of Toronto.

High rise buildings are sparsely placed throughout the urban area, following the automobile oriented Asian model that has developed in recent decades. This means that, despite its high "point" densities, where high-

rise condominiums are located, overall densities are not high. This makes Xi'an work better from the perspective of traffic, since the large spaces between the high rise buildings provide substantial room for traffic to spread out and flow more smoothly.

Further, as the inevitable expansion of Chinese motorization continues, the large spaces between buildings mean that there will be plenty of space for parking lots to accommodate the additional cars. At the same time, as the affluence of the population improves and there is more demand for detached housing, there will be room to build some lower density residential between the high rise buildings. It will be important, however, to ensure that any additions do not overwhelm the road transport system.

Urban Transport

Xi'an is on the We Hei riverine plain, south of the river. Xi'an has extended the ancient grid arterial street system to cover most of the urban area. Xi'an has wide streets, both inside the wall and outside. This does much to keep traffic congestion under control. The streets are lined with trees to a stunning degree. This makes Xi'an's hot summer climate much more bearable and also makes the urban area particularly attractive. In the newer areas, the streets are uncommonly wide, often 8 lanes or more, as is typical of new development in Chinese urban areas. Xi'an has built a number of surface street grade separations, which speed traffic through intersections that would otherwise be congested. As elsewhere in China, most of Xi'an's traffic signs are also in English, which makes getting around easier.

There are two full-freeway ring roads around Xi'an, along with the usual expressway system that links the urban area to the rest of the nation. By 2020, China intends to have nearly as many freeway miles as the United States. Motorization is expanding rapidly in China. Moreover, the Chinese are not opting for small cars alone. New sport utility vehicles (SUVs) and large cars, such as Audi 8's, Shanghai GM Buicks and Nissan Teana's are quite popular.

While Chinese urban areas have a reputation for intense air pollution (Plates 15 &16), this seasoned smog expert (as anyone must be who lived in Los Angeles during the smog peak) that the air smelled better than Los Angeles in the 1960s and 1970s. This is unlike India, where there are many highly-polluting cars --- or the cores of European cities, where the sheer volume of traffic seems to neutralize the best air pollution control equipment on cars. Here, it appears the larger problem may be industrial air pollution.

The Stele Museum

One of Xi'an's most unusual sites is the stele (rock tablet) museum. It is located a few blocks to the east of South Street, just to the north of South Gate (inside the wall). The museum includes the "Nestorian Stele," which chronicles early activities of the Nestorian Christian missionaries who came to China in the 7th century (Plates 43-45). The stele was lost for centuries, but was found a few hundred years ago. The Nestorian Stele is located in building #2 and is the first stele to the left after the entry (this information is provided because tourist information on the internet is vague on this subject).

Giant Wild Goose Pagoda

The Giant Wild Goose Pagoda is 210 feet tall (65 meters) and is located three miles (5 kilometers) south of the Bell Tower, and outside the Xi'an city wall. The Giant Wild Goose Pagoda was built about 650 A.D. Its distance from the core gives a good idea of the expanse of the urban area at its previous population peak.

The top of the Pagoda provides good views of the intense suburbanization that has developed to the south of the Xi'an wall (Plates 154-174). In fact, the views from the Giant Wild Goose Pagoda may be among the best examples of the difference between Asian and western urbanization. High-rise buildings are sparsely situated

throughout the urban area, rather than being generally concentrated in small cores (as in Western Europe) or tiny cores (as in the new world of the United States, Canada and Australia).

Despite its distance from the core of the city, high-rise urban development continues further to the south and west, though there is less development to the east. Moreover, there is even more intense development to the north, between the Pagoda and South Gate. And, as noted above, there is considerable high-rise development to the north of the wall. Moreover, at under 17,000 residents per square mile (less than 6,500 per square kilometer), Xi'an is not among China's more dense urban areas, which makes the spread of high-rise buildings all the more impressive.

Shopping & A Nation of Shopkeepers

There is a modern nine-story shopping center (Plate 53) across the street to the southwest of the Bell Tower. It includes a food court on the top floor that provides a wide variety of dishes. There is a Wal-Mart store just to the east of the shopping center, along East Street. Street vendors sell a wide range of food along North Street, just to the north of the Bell Tower, in the evenings. This illustrates the wide range of business, between the largest and smallest. Perhaps even more than England, China has emerged as a nation of shopkeepers. Many streets are lined with small shops selling everything from drinks to machinery.

Terra-Cotta Warriors

Within an hour's drive northeast of Xi'an are the terra-cotta warriors. There are more than 8,000 soldiers at this remarkable site that was discovered little more than 30 years ago. However, the tourist always has the problem of priorities and the minimum one-half day that would have been required to visit this site would have precluded me from seeing sights of far greater personal interest, principally the urban and suburban development. My gracious hosts at the Xi'an University of Architecture noted that I was their first western visitor to not visit the terra-cotta warriors. For me, there was not a second thought --- as I was running out of time in Xi'an, the terra-cotta warriors were not as important as other parts of the urban area that there had been insufficient time to visit. Travel is taste and choices.

Airport

Xi'an's airport is located 15 miles (25 kilometers) to the northwest, near Xianyang. Its outward design is similar to that of Dulles International in Washington, DC (Plates 196-197). Like Dulles, Charles de Gualle and Los Angeles International, the airport is operating above capacity and buses are sometimes used to ferry passengers to and from planes.

Practical Information on China

Air Conditioning: The Chinese seem determined to live in comfort as their American cousins. Virtually all major commercial establishments and residential buildings are air-conditioned. Even the older communist era residential buildings have been retro-fitted with room based air conditioners.

Hotels: Hotel rates are reasonable in China, unlike India. However, like India, three-star hotels are both clean and comfortable. The only problem is that little English is spoken. Nonetheless, the language difficulties can generally be overcome as hotels will usually have access to people who speak English.

Money Exchange: Some western hotels have money exchange services. Other hotels do not. Generally, money must be exchanged at the Bank of China, which has multiple branches throughout Chinese urban areas. The larger branches have somewhat bureaucratic procedures and considerable demand, so it is recommended that more money be exchanged, so that visits to the bank (and time) can be minimized.

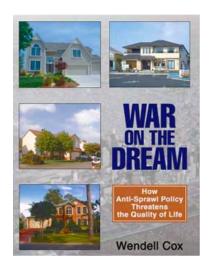
Car Rental: Generally, it is not possible to rent cars in China unless you have a Chinese drivers license. This means that touring is best done by taxicab. It will typically be less expensive to take multiple taxis to specific locations rather than renting taxis for a certain number of hours through hotels.

Air Travel: There has been a proliferation of airlines in China, most owned by the central, provincial or even municipal governments. With a land area larger than the United States, air travel fills a long-distance niche that simply cannot be served by surface modes of transport (cars and trains). Already, the share of personal travel by air in China is nearly double that of Japan and Western Europe and rivals that of the United States (more than 10 percent).

"Cities" in China: The term "city" has many meanings and Chinese usage makes the word even more nebulous. Cities or municipalities (areas of municipal administration) in China are routinely larger than their urban areas. Some municipalities are considered provincial level (Shanghai, Beijing, Chonging and Tianjin). Other municipalities are considered sub-provincial (such as Wuhan, Xi'an and Chengdu) and have a degree of autonomy from provincial governments. Chinese municipalities are the largest in the world, both in area and in population. Unlike in China, few, if any, of the world's largest municipalities are larger than their respective urban areas. Moreover, many municipalities in China are far larger than any reasonable definition of a metropolitan area (labor market area).

China City Population Figures: Cautions: Because of their very large municipalities that have far more rural than urban space city population figures in China are not a reliable indicator of urban populations. For example, the Xi'an municipality has more than 7,000,000 residents, yet the urban area has only 3,000,000 residents. The Chongqing municipality has more than 30,000,000 and covers a land area the size of Indiana. The Chongqing urban area, however, has 3,000,000 people. Comparison data is provided in the figure below for Chengdu, Wuhan and Xi'an.

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Comparison of Municipalities (Cities) with Urban Areas: China Examples								
MUNICIPALITY (CITY ADMINISTRATIVE AREA)								
	Population	Land Area (Square Miles)	Density	Land Area (Square KM)	Density			
Chengdu	11,000,000	4,700	2,300	12,100	900			
Wuhan	8,300,000	3,300	2,500	8,500	1,000			
Xi'an	7,300,000	2,900	2,800	10,000	700			
URBAN AREA (URBAN AGGLOMERATION OR URBAN FOOTPRINT)								
		Land Area		Land Area				
	Urban Area	(Square Miles)	Density	(Square KM)	Density			
Chengdu	3,500,000	135	25,900	350	10,000			
Wuhan	4,700,000	225	20,900	580	8,050			
Xi'an	3,000,000	180	16,700	465	6,450			
OUTSIDE PRINCIPAL URBAN AREA								
	Urban Area	Land Area (Square Miles)	Density	Land Area (Square KM)	Density			
Chengdu	7,500,000	4,565	1,200	11,750	650			
Wuhan	3,600,000	3,075	1,200	7,920	450			
Xi'an	4,300,000	2,720	1,600	9,535	450			
URBAN AREA SHARE OF MUNICIPALITY								
	Land Area							
	Urban Area	(Square Miles)	Density					
Chengdu	32%	3%	1126%					
Wuhan	57%	7%	836%					
Xi'an	41%	6%	596%					
Urban area estimates by Demographia using maps, and "qu" (wards or districts) data.								



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http://www.demographia.com/wod1.pdf

Urban Tours by Rental Car: About the Series

Urban Tours by Rental Car offers perspectives on urban development obtained by automobile tours through urban areas. Rental cars are not the favored method for visiting cities, especially those outside one's own country. Instead, tourists and urban planners favor packaged tours or local public transport systems. Both are splendid ways for seeing the city as it used to be --- the very reason for most tourist visits. The historical core areas contain monuments, prime government and religious edifices and quaint neighborhoods that are often centuries old. This is particularly important to tourists from the newer urban areas of the American, Canadian or Australian West, where history extends not far before World War II. It is further understandable that few tourists travel thousands of miles to see the newer suburban areas that look very much like home. But most tourists do not profess to be students of the urban area.

For the urban planner interested in understanding the whole urban area, it is not enough to study the core alone, regardless of its architectural attractiveness, romanticism, history or affirmation of an individually preferred life style. No one, regardless of the depth of their education can develop reliable conceptions from an unrepresentative sample, and urban cores are the very essence of unrepresentative samples. Both public transport and packaged tours miss the larger part --- the expanse of sprawling residential and business development that rings virtually all major urban areas. They may be of little interest to many urban planners, but they should be.

Stripping away regional architectural facades, one might as well be in the suburbs of Phoenix, Portland, Perth or Paris. Here, the automobile is king, because no public transport system has been developed that can effectively serve destinations outside the core (at least at a price any society can afford). While public transport market shares are higher in European suburban areas than in the New World, much of the difference is attributable to lower incomes and less automobile access. Indeed, public transport's principal weakness, lack of automobile competitiveness, is itself a contributing factor to the rising motorization occurring from the suburbs of Copenhagen and Nagoya to the suburbs of Lagos and Mumbai. To oversimplify this phenomenon as being a "love affair with the automobile" is the equivalent of saying that Singaporeans or Brazilians have a love affair with air conditioning. Human beings prefer comfort to discomfort and they prefer free time to time over which they have no control.

It is no wonder that tourists return to the United States thinking that all Paris looks like the second arrondissement (less than one percent does) and that urban planners think all of Milan looks like the architectural treasures that surround the Cathedral. In fact, the sprawling suburbs of Europe, Japan, Canada and Connecticut resemble one another in many ways. For any seeking to study the urban area in its entirety -- not just the favored haunts of core-dwelling elites --- there is no alternative to "getting behind the wheel." Thus, *Urban Tours by Rental Car*.



Wuhan-Xi'an Freeway Under Construction



Xi'an Wall



Outside Xi'an Wall



Xi'an Wall



Outside Xi'an Wall



Xi'an Wall



Xi'an Wall



Xi'an Wall



A Nation of Shopkeepers



Shaded Street

9



Outside Wall: West



Outside Wall: West



Sichuan Art Museum



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Outside Wall: South



Xi'an Wall



Outside Wall: South



Xi'an Wall



Outside Wall: South



Outside Wall: South



Xi'an Wall



Outside Wall: South



Outside Wall: South



Xi'an Wall



Xi'an Wall



Inside Xi'an Wall



Xi'an Wall



Inside Xi'an Wall



Nestorian Stele



Nestorian Stele with Cross Circled



Nestorian Stele



Inside Xi'an Wall

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Inside Xi'an Wall



Inside Xi'an Wall



Inside Xi'an Wall: South Street



Inside Xi'an Wall: Bell Tower



Inside Xi'an Wall: Bell Tower



Inside Xi'an Wall: East Street



Inside Xi'an Wall: Shopping Centre



Inside Xi'an Wall



Inside Xi'an Wall



Inside Xi'an Wall: Drum Tower



Inside Xi'an Wall: West Street



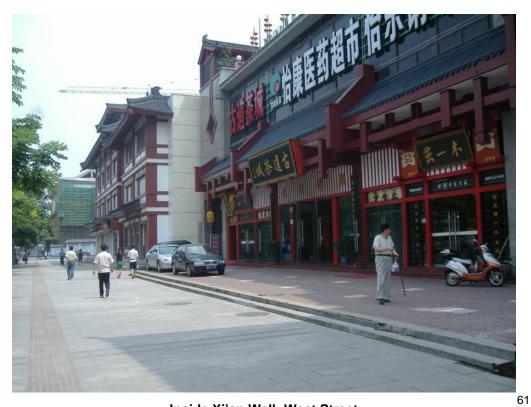
Inside Xi'an Wall



Inside Xi'an Wall: West Street



Inside Xi'an Wall: West Street



Inside Xi'an Wall: West Street



Inside Xi'an Wall: West Street



Inside Xi'an Wall: West Street



Xi'an Wall



Inside Xi'an Wall: West Street



Xi'an Wall: West Gate



Xi'an Wall: West Gate



Xi'an Wall: Exterior



Outside Xi'an Wall: West



Outside Xi'an Wall: West



Petrol Station



Outside Xi'an Wall: North

72



Outside Xi'an Wall: North



Airport Expressway



Airport Expressway



Airport Expressway Bridge Over We Hei



Outside Xi'an Wall: South



Outside Xi'an Wall: South



Outside Xi'an Wall: South



Outside Xi'an Wall: South



Xi'an Wall



Xi'an Wall



Outside Xi'an Wall: West



Outside Xi'an Wall: North Street



Outside Xi'an Wall: North Street



Outside Xi'an Wall: North Street



Outside Xi'an Wall: North Street



Outside Xi'an Wall: North



Outside Xi'an Wall: North



Outside Xi'an Wall: North



Outside Xi'an Wall: North



Outside Xi'an Wall: North

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Outside Xi'an Wall: North



Outside Xi'an Wall: North



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Outside Xi'an Wall: North



Outside Xi'an Wall: North

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Outside Xi'an Wall: East



Inside Xi'an Wall



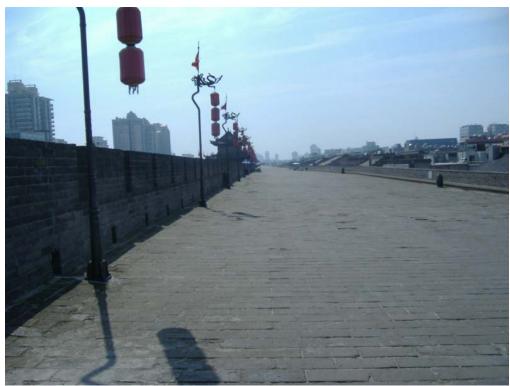
Inside Xi'an Wall: South Gate



Inside Xi'an Wall: South Gate



Inside Xi'an Wall: South Gate



On Xi'an Wall



On Xi'an Wall



On Xi'an Wall



On Xi'an Wall



On Xi'an Wall View to South



On Xi'an Wall



Inside Xi'an Wall



Inside Xi'an Wall



On Xi'an Wall



On Xi'an Wall



Xi'an Wall View to the South



On Xi'an Wall



Inside Xi'an Wall

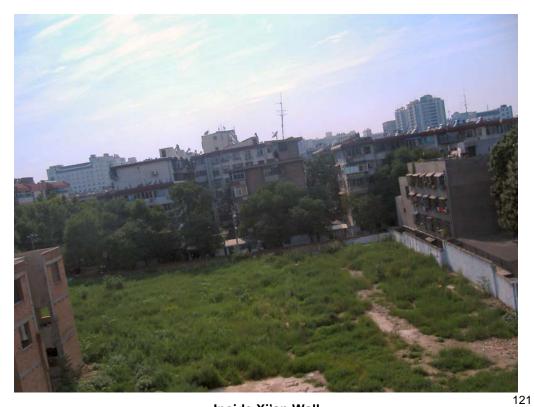


On Xi'an Wall



Xi'an Wall & View to the East

120



Inside Xi'an Wall



Xi'an Wall & View to the East



On Xi'an Wall



Xi'an Wall & View to the East



On Xi'an Wall



Xi'an Wall & View to the East



Inside Xi'an Wall



On Xi'an Wall



Xi'an Railway Station: Outside North Gate



North Street inside Xi'an Wall



Inside Xi'an Wall



Xi'an Wall: North Gate



On Xi'an Wall



North Street from Xi'an Wall



North Street Outside Xi'an Wall



View North from Xi'an Wall



On Xi'an Wall



On Xi'an Wall

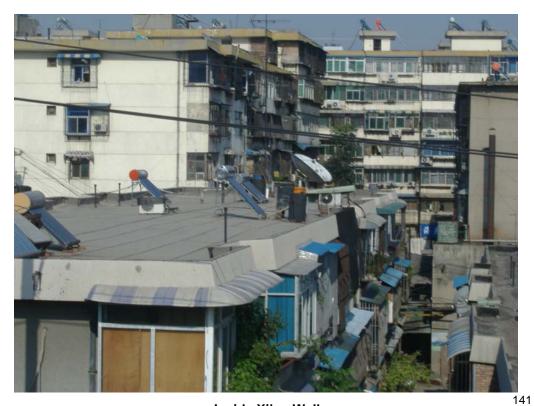


On Xi'an Wall



Inside Xi'an Wall

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Inside Xi'an Wall



Inside Xi'an Wall



Inside Xi'an Wall



Inside Xi'an Wall



On Xi'an Wall



On Xi'an Wall



On Xi'an Wall & View South



On Xi'an Wall



On Xi'an Wall



Outside Xi'an Wall: South



Outside Xi'an Wall: South



Giant Wild Goose Pagoda



Outside Xi'an Wall: South



Giant Wild Goose Pagoda



At the Giant Wild Goose Pagoda



At the Giant Wild Goose Pagoda



South from the Giant Wild Goose Pagoda



East from the Giant Wild Goose Pagoda



East from the Giant Wild Goose Pagoda



East from the Giant Wild Goose Pagoda



North from the Giant Wild Goose Pagoda



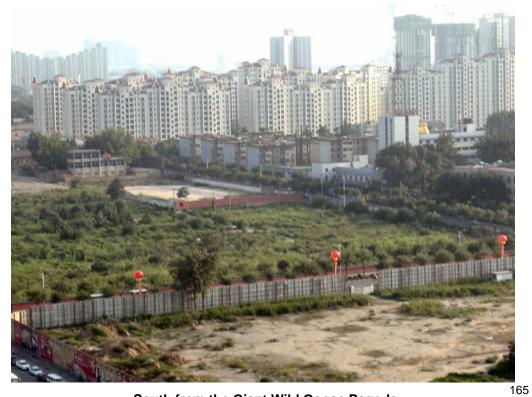
North from the Giant Wild Goose Pagoda



South from the Giant Wild Goose Pagoda



South from the Giant Wild Goose Pagoda



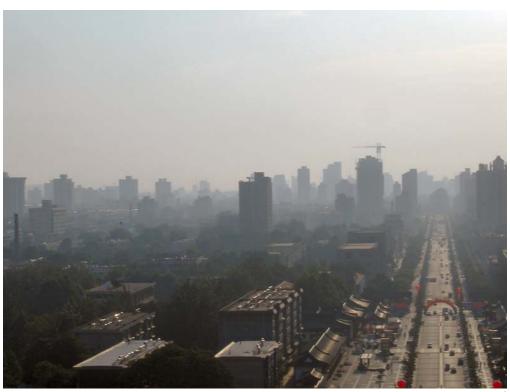
South from the Giant Wild Goose Pagoda



South from the Giant Wild Goose Pagoda



West from the Giant Wild Goose Pagoda



West from the Giant Wild Goose Pagoda



West from the Giant Wild Goose Pagoda



North from the Giant Wild Goose Pagoda



North from the Giant Wild Goose Pagoda



Giant Wild Goose Pagoda



Giant Wild Goose Pagoda



South from the Giant Wild Goose Pagoda



Outside Xi'an Wall: South



Outside Xi'an Wall: South



Outside Xi'an Wall: South



Outside Xi'an Wall: South



Outside Xi'an Wall: South



Outside Xi'an Wall: West



Xi'an Wall



Drum Tower



Inside Xi'an Wall: Shopping Centre



Inside Xi'an Wall: Bell tower



Inside Xi'an Wall: Drum Tower



Inside Xi'an Wall

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Inside Xi'an Wall: Bell Tower



Outside Xi'an Wall: West



Outside Xi'an Wall: West



Outside Xi'an Wall: West



Outside Xi'an Wall: West



Outside Xi'an Wall: West



Expressway



Expressway



Airport Expressway



Xi'an (Xianyang) Airport



Xi'an (Xianyang) Airport



We Hei River



Xi'an



Xi'an Wall



Xi'an Wall



South of Xi'an Wall



South of Xi'an Wall



South of Xi'an Wall



South Street, South of Xi'an Wall



Xi'an Wall

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South Street, South of South Gate

