



Chongming Island

崇明岛总体规划

CHONGMING
ISLAND

SHANGHAI
CENTRAL CITY

Chongming Island 崇明岛总体规划

Shanghai, China

THE VISION: A GREEN ISLAND

Chongming Island benefits from a magnificent setting, adjacency to the vibrant center of Shanghai, clean soil, and beautiful farms and landscape. Chongming Island can be a place of education, of ecology, of science, of close contact with nature, and intricate ties to global networks of ideas and resources. It can be a part of the most modern of worlds.

Chongming can be a setting which reflects the highest of ecological design standards. It will be a place of creation and re-creation: A GREEN ISLAND. Chongming Island can rethink the divisions between art and industry, home and work. It will focus on new approaches to energy, communication, business, and transportation. On its foundation will also be new approaches to agriculture, aquaculture and ecology.

Chongming Island will become a beacon to the world.

THE PROJECT

A regional scale planning and urban design strategy to guide the settlement growth for 800,000 people, while preserving farmlands, establishing wilderness areas and introducing public transportation on a 750 sq mile island on the Yangtze river in the city of Shanghai, China.

THE CLIENT

The Shanghai Planning Bureau
Municipality of Shanghai; People's Republic of China

THE CONTEXT

Chongming Island is one of the largest alluvial islands in the world, 50 miles long, 15 miles wide, formed from sediment deposited by the Yangtze River. It is twice as large in area as the City of Chicago. It is one of five administrative districts of the municipality of Shanghai, and is the least developed of the five. The primary land use on the island today is farming. Chongming Island serves as key stopping point for migratory birds along the Pacific coastal flyway. Chongming Island has been identified by the Shanghai Planning Bureau as a key part of Shanghai's continued growth, potentially serving as a recreational and environmental preserve for the municipality and a future industrial zone. To define the goal, the Bureau solicited master plans for the island in the form of an international competition.

THE GOALS

The goals for the Chongming Island Master Plan are:

- 1) Identify a vision for the long-term development of the island.
- 2) Create an international environmental showcase through the incorporation of sustainable concepts.

THE ISSUES

- 1) Preventing more single use sprawling development patterns that are occurring within Shanghai.
- 2) Accommodate tourism.
- 3) Minimizing the introduction of over scaled highways and car oriented developments.
- 4) Keeping development in balance with nature.
- 5) Maintaining the farming industry on the island.
- 6) Organizing compact transit oriented settlement patterns to accommodate growth.

THE OUTCOME

This plan is the first-place winner of the Chongming Island international planning competition, chosen over four other international planning firms. The plan is now the official recommendation to the Central Government of China by the Shanghai City Government. It has recently been approved by the Central Government.

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Shanghai, China

THE CONCEPTS

The Master Plan is structured around two scales of sustainability:

- 1) Concepts that apply to the entire island, and
- 2) Concepts that apply to the development of cities and villages.

The plan structures its recommendations for the island around six key sustainable concepts:

- **Wilderness & Ecosystems**
- **Organic Farming**
- **Green Systems**
- **Transportation**
- **Green Villages**
- **Coastal Cities**

It then illustrates how Island cities can be planned to complement these sustainable ideas.

To achieve the broadest and most compelling vision for the Island, the planning team invited a panel of international experts in each of these conceptual areas. This panel provided the most current and innovative thinking defining “best practices” in urban design and planning.

CONCEPT 1: TRANSFERABILITY

The six primary concepts contained in the plan were conceived to provide China with a new paradigm for how they consider their physical environment. To date, the idea of connections between urban growth, environmental conservation, and provision of food resources has not been a high priority within China. It is the intention of the Master Plan that not only the specific concepts be transferable across regions and scales, but that the idea of interconnection between the built and natural worlds must become part of the Chinese planner’s thought process. This concept of interconnectedness is the most important of transferable ideas. While the plan presents a prototype at the national and international scale, it is also responsive to local influences and preferences. It is a plan that integrates the unique particularities of this special place and incorporates them into the basic premises of the plan.

CONCEPT 2: ORIGINALITY / INNOVATION

The Chongming Island Master Plan is exceptionally broad in its scope and vision. It articulates a plan for a 750 square-mile island, and incorporates concepts for the development of cities, villages, farming, industry and economic growth and environmental systems. It further articulates a vision for the preservation of key wildlife habitats and ecosystems. It then connects all of these components with recommendations on specific physical changes to the island, including roads, transit lines, and the development of ecotourism sites and environmental systems. It is both visionary and practical, and unparalleled in its sustainable scope within China. The plan also proposed to preserve farming as the “core business” of the island.

To arrive at these concepts, extensive research was completed, and a panel of international experts was created to advise on specific components. At the conclusion of the process, all of this data was given to the Chinese client. This transfer of knowledge to a client group without access to similar resources is an innovative aspect of this planning process.

The core business on the island today is farming. Farming is viewed as a low income profession and not the highest and best use of the land as described by the Chinese government. The plan calls for a shift in thinking, focusing on organic farming, and a direct sales relationship to Shanghai merchants and restaurants. Organic, high quality farming will raise farmers income by an estimated 3 times.

CONCEPT 3: COMMUNITY INVOLVEMENT

Historically, public participation in Chinese planning projects is not utilized as in other countries. With this Master Plan, the planners made a specific effort to understand and incorporate as many local concerns and issues as possible. Despite the remoteness of the site, the planning team conducted a many on-site evaluations of the island, hearing first-hand from local constituent groups their concerns and visions for the future. Local officials provided extensive information about specific challenges they face, from transportation to water quality to sewage disposal. These concerns and observations form the core of the plan. Three interim presentations were conducted with a variety of Shanghai and Chongming agencies to test concepts.

Chongming Island 崇明岛总体规划

Shanghai, China

EFFECTIVENESS/RESULTS

This plan directly met the needs of the client group for a clear, yet comprehensive, vision for Chongming Island. It addressed all of the subject areas identified by the client as important, and did so in an accessible and readily understandable manner.

Further, the plan illustrated how many disparate concepts and visions can be brought together in a complementary manner, where each concept is strengthened by association with others. The comprehensiveness and collaborative nature of this planning process is new to China, and this plan has influenced the way the Shanghai Planning Bureau now evaluates and considers projects.

Further, due to Shanghai's importance in China, this process and plan have already begun to influence how the Chinese government and other municipalities conduct planning.

IMPLEMENTATION AND NEXT STEPS

Following an international exhibition of the work in the autumn of 2004, the Shanghai Planning Bureau will begin the process of implementation of this plan with various infrastructure projects, the bridge over the Yangtze River and the beginning of Town 1, Pearl Lake City.

May 2004

Accepted conceptual plan by City of Shanghai

July 2004

Shanghai Planning Bureau officially submitted the plan to China Central Government for approval

September 2004

Central Government adoption of the Chongming Island Master Plan

September 2004

Government approval of Yangtze River bridge to Chongming Island

September 2004

Chongming Island Plan exhibited in Beijing biennial for Architecture



East China Sea

Qidong

CHONGMING ISLAND
崇明岛总体规划

Mouth of
the Yangtze River

Shanghai

Pudong
Airport

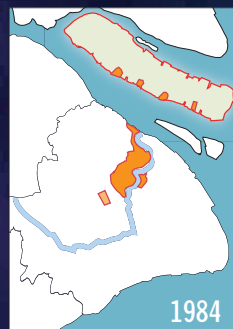
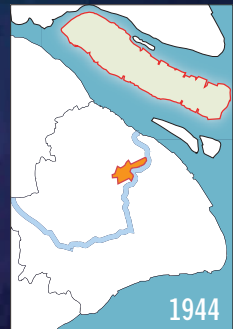
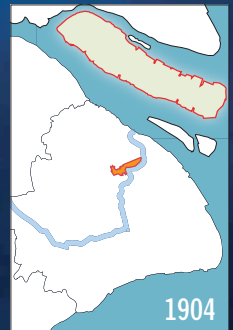
Huang Pu River

Chongming Island

崇明岛总体规划

The Challenge

To transform a coastal island into a world class environmental and sustainable district for Shanghai that preserves the environment yet houses 800,000 people.



SCALE COMPARISONS

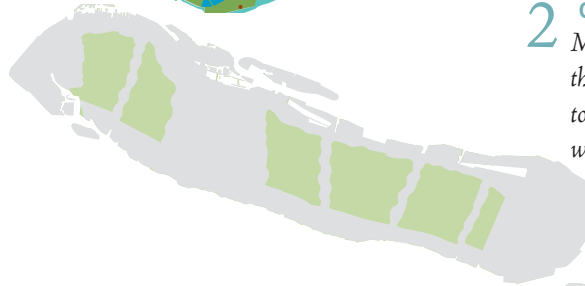


Chongming will be a reflection of “best practices” in urban design and planning

The Chongming Island planning themes are as follows:



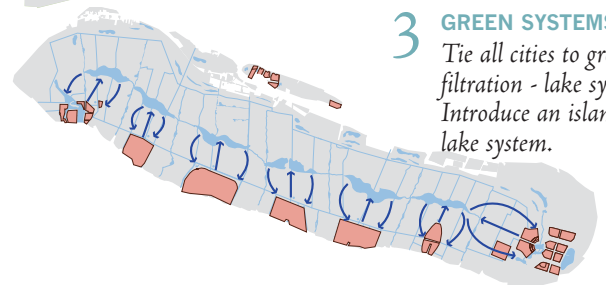
1 WILDERNESS AREAS / ECO SYSTEMS
Restore wetland wilderness areas. They form strong natural habitats for a broad community of wildlife.



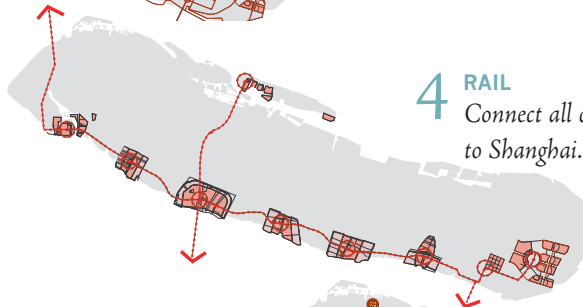
2 ORGANIC FARMS
Maintain farming as core business, shifting the focus to organic products and direct sales to Shanghai restaurants. Higher quality produce will increase farmer's income.



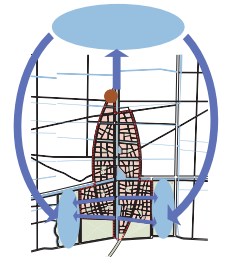
4 ISLAND STREET GRID
Preserve historic farm grid of narrow streets throughout the island. Minimize overscaled highways.



3 GREEN SYSTEMS
Tie all cities to green filtration - lake system. Introduce an island wide lake system.



4 RAIL
Connect all cities by rail to Shanghai.



Create closed-loop utility and waste systems.

“FIRST CONVERSATIONS”

Chongming Island will be a “Green Island” that represents state of the art principles in ecological planning.

- A comprehensive planning view of the whole island
- An emphasis on ecology and the environment
- Green industries of the 21st century
- Eco tourism as a new industry for the island
- A destination of choice for both Shanghai residents and international visitors
- A place for green technologies in energy production and transportation modes
- An intelligent transportation plan - most people can walk to transit
- A collection of coastal cities and farm villages to house 800,000 people
- An emphasis on science, education and the environment
- An international conference center for global environmental discussions
- A focus on organic farming



5 GREEN VILLAGES
Define 40 farm villages organized around lakes within close proximity to the farmlands.

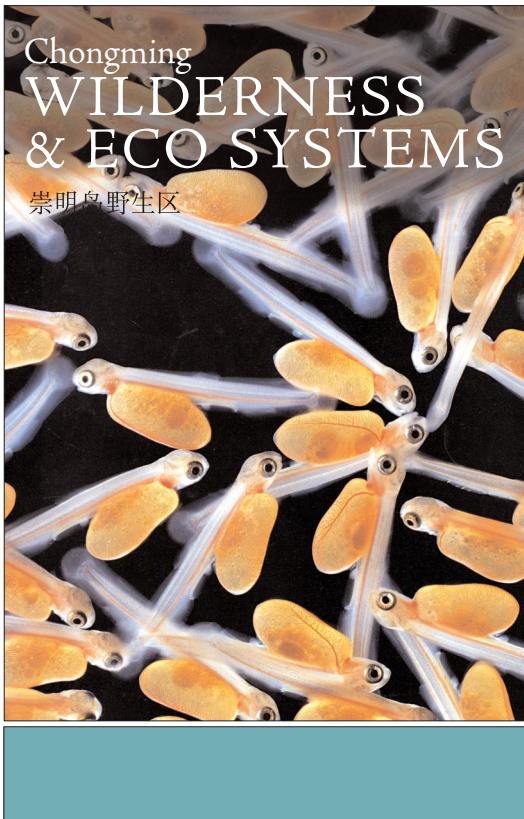


6 COASTAL CITIES
Organize 8 cities along the south coast focused on rail transit.

A Hierarchy of Planning Principles



	REGION	ISLAND	CITY
WILDERNESS / ECOLOGY	<ul style="list-style-type: none"> • Preserving migratory flyway • Open space resource for city population • Premier ecological tourist destination 	<ul style="list-style-type: none"> • 35% of island reserved for farming • 35% of island reserved in natural open space • Island infrastructure is based on renewable energy • Water management systems introduce island lake system 	<ul style="list-style-type: none"> • Cities using biofiltration • Green buildings reduce need for heating and cooling • Energy efficient building systems • Green building products
AGRICULTURE	<ul style="list-style-type: none"> • Organic food supplies to Shanghai • Shanghai farmers' market • Distribution to Shanghai restaurants 	<ul style="list-style-type: none"> • Core industry on island is farming • Aquaculture and produce are specialties 	<ul style="list-style-type: none"> • Agriculture is adjacent to cities • Identifiable food markets and restaurants • Cities also have adjacent industrial areas • Isolated business parks are not allowed
TRANSPORTATION	<ul style="list-style-type: none"> • Regional highway bridge and rail lines connect Chongming to Shanghai • Ferry service continues to link Chongming cities to Shanghai 	<ul style="list-style-type: none"> • Rail, bicycle and bus reduce need for car 	<ul style="list-style-type: none"> • Compact cities promote a strong walkable and bicycle environment • All cities are connected to Shanghai and region by rail
CITIES AND VILLAGES	<ul style="list-style-type: none"> • Chongming supports region by housing 800,000 people in Shanghai area 	<ul style="list-style-type: none"> • 8 cities along coastline • All aligned by rail • All with ferry service 	<ul style="list-style-type: none"> • Compact and mixed use cities offer places for living, working, education and recreation



THEME 1: Chongming Wilderness and Eco Systems

Concept

Creating Communities in Nature While Creating a Premier Ecological Tourist Destination

Principles

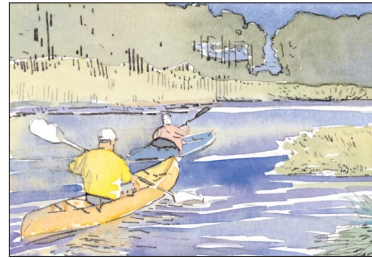
- Establish diverse wetlands that support wildlife communities
- Strengthen the landscape for migratory bird habitats
- Create preserves for the Chinese Alligator - an endangered species
- Introduce native landscapes to the island
- Introduce forests that are made up of diverse plant communities
- Develop educational centers around the wilderness concept
- The island will become a premier destination for eco tourism
- Tourist accommodations will be within farm villages, in the wilderness, and in the coastal cities
- Bicycle tours, walking tours, and special vehicle tours will enable tourists to experience the island ecology
- Health and fitness will be combined with organic foods & ecotourism



Special hotels around the lakes will be inviting places to spend a weekend



Art programs will attract international artists to the island



The lakes offer many recreational opportunities



Migratory bird habitats will be important destinations for tourists



55 % of the island will be protected as wilderness areas

Chongming ORGANIC FARMS

崇明岛自然农场

THEME 2: Chongming Organic Farms



Concept

Elevating Farming to a 21st Century Green Industry

Principles

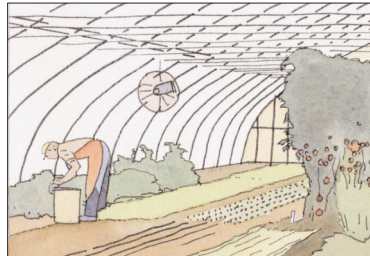
- Introduce organic farming to the island
- Distinguish Chongming Island as the place for the highest quality food production in the Shanghai region
- Organic farming with direct sales to restaurants can increase income to farmers by three times
- Introduce the “Chongming Organic Farmers Market” in central Shanghai
- New farming techniques such as hoop farming can increase crop production throughout the year
- Organic farming will create Chongming Islands identity
- Shanghai will gain in international identity for its commitment to organic foods



Within Shanghai, a “Chongming Organic Farmers Market” will be the focus of redevelopment along the HuangPu River



Aquaculture farms will offer high quality seafood



“Hoop Farming” can produce up to 24 times the crop production as normal farming



Organic farming will offer a new economically viable industry. Chongming Island will be the organic food capital of Shanghai

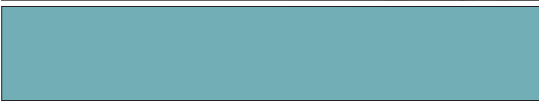


35% of the island will remain in agriculture

Chongming GREEN SYSTEMS

崇明岛绿色系统

THEME 3: Chongming Green Systems



Concept

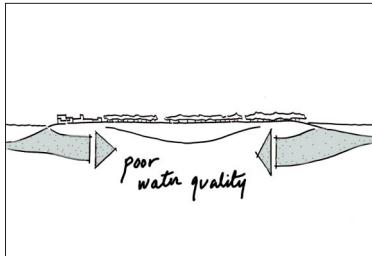
Creating Systems that Ensure Environmental Quality

Principles

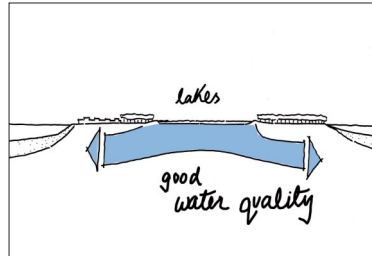
- New lakes in the center of the island will recharge the water table
- A recycling system of waste water will help to restore wetlands, recharge the water table, and support wildlife
- Canals and lakes work together to create a filtering system for water
- New interior island lakes will help prevent salt water intrusion
- Wind energy will help to pump water to lake filters
- Alternative energy sources will fuel the islands power grid - renewable energy should be the focus of the islands power systems



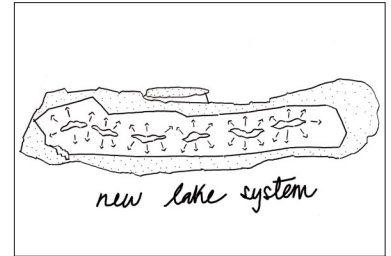
Forests will enhance air quality and create habitat areas



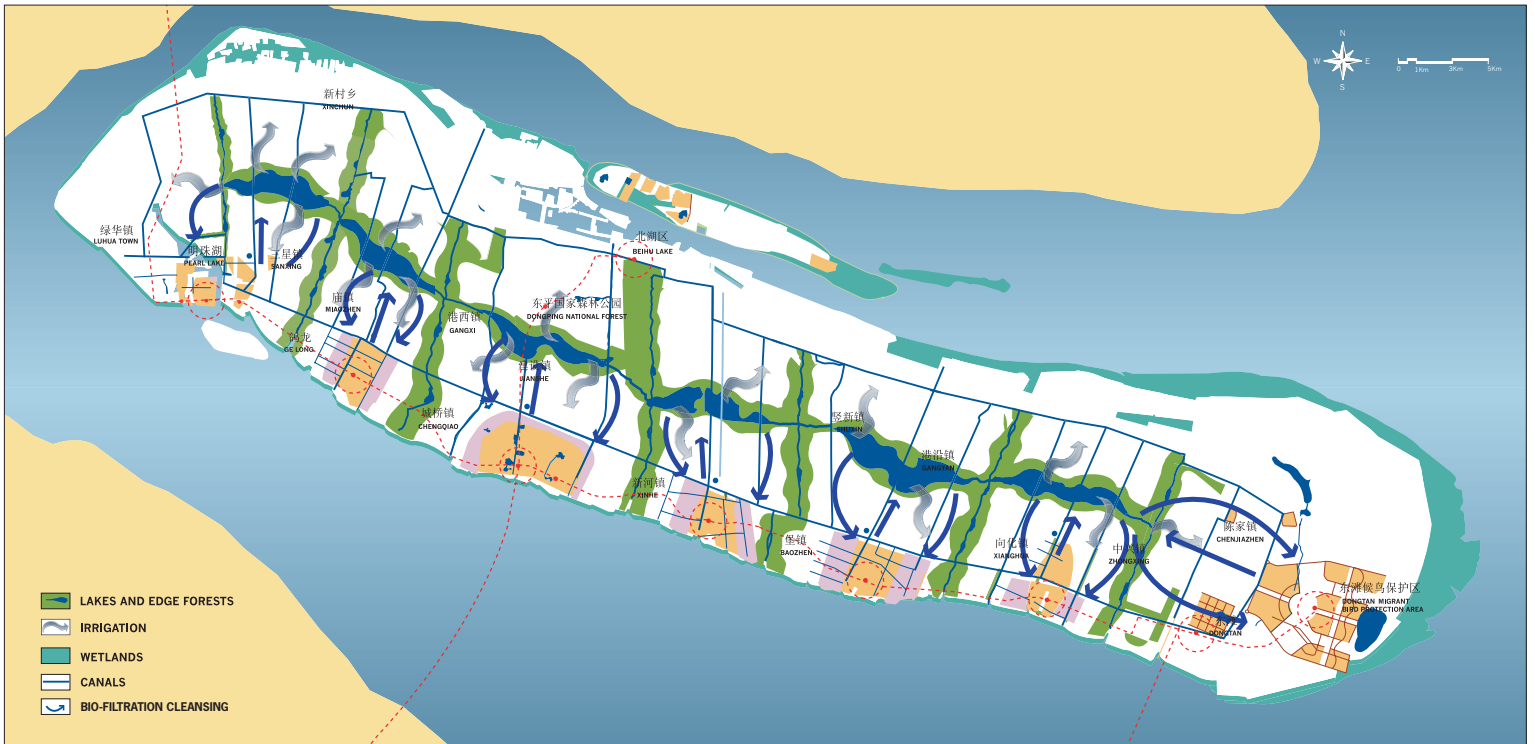
Salt water infiltration creates poor water quality



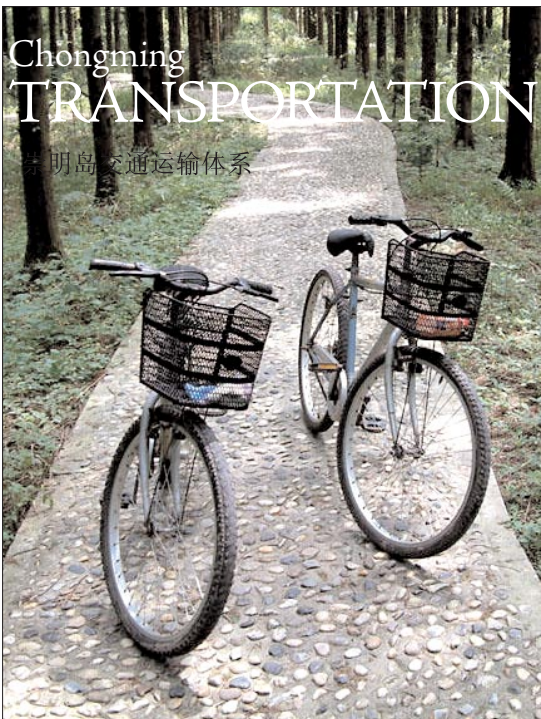
New lakes create hydrostatic pressure and recharge groundwater



New lakes provide fresh water to all areas of the island



Proposal for 6 mid island lakes to improve quality of ground water



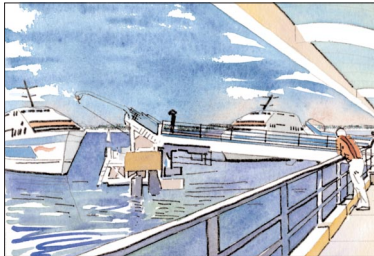
THEME 4: Chongming Transportation

Concept

Creating Green Transportation Options

Principles

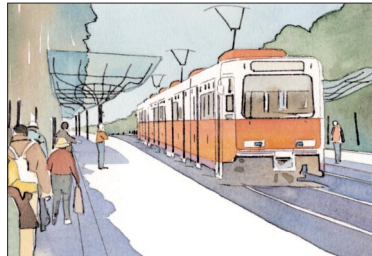
- Chongming Island should be a model for all of China in green technologies related to transportation
- Bicycles, electric vehicles, fuel cell vehicles, transit should all be included on the island
- Pedestrian paths and “walkable cities” are also critical to green transportation strategies
- Chongming Island should be an easy place to get around for visitors and residents
- The automobile should have diminished importance
- All cities are connected by rail
- Most residents should live within walking distance of trains



Ferries will be state of the art. Many coastal cities will have ferry terminals connecting to Shanghai



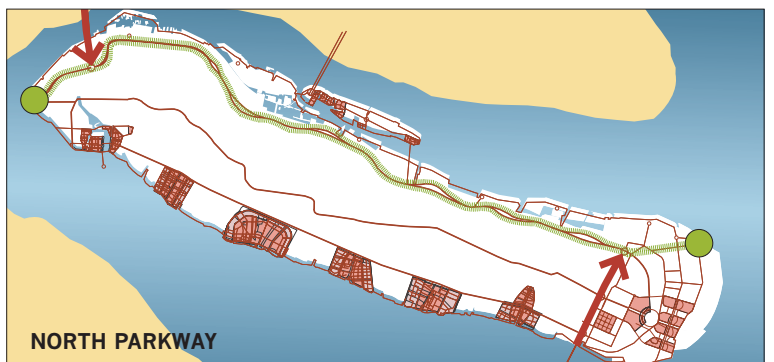
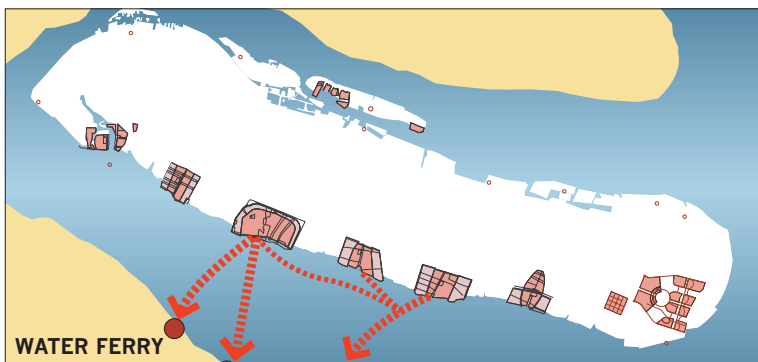
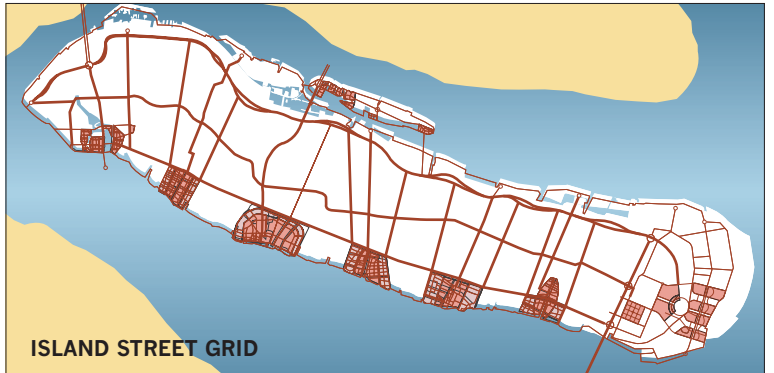
The North Island parkway is a new scenic road on the island



A light rail line on the island may link all coastal cities and other farm villages



Efficient rail and bus transit will be introduced to Chongming Island to reduce the need for cars

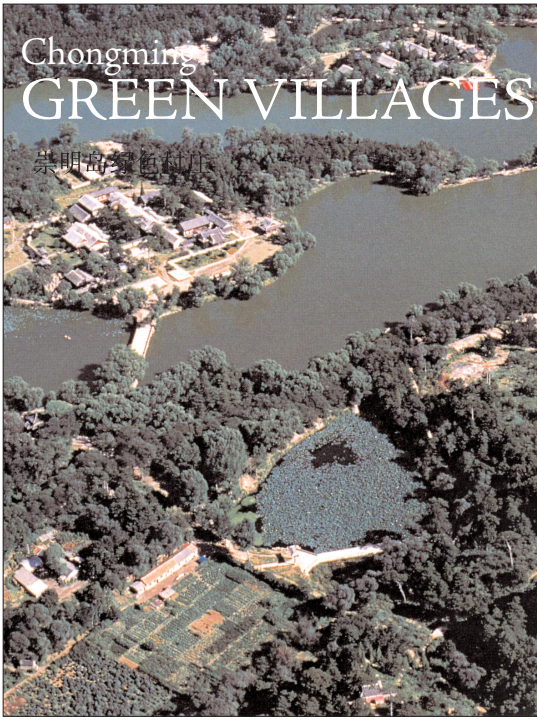


The island will be connected by a comprehensive transportation network

Chongming GREEN VILLAGES

崇明岛绿色村庄

THEME 5: Chongming Green Villages



The lake villages will be designed to accommodate farming families

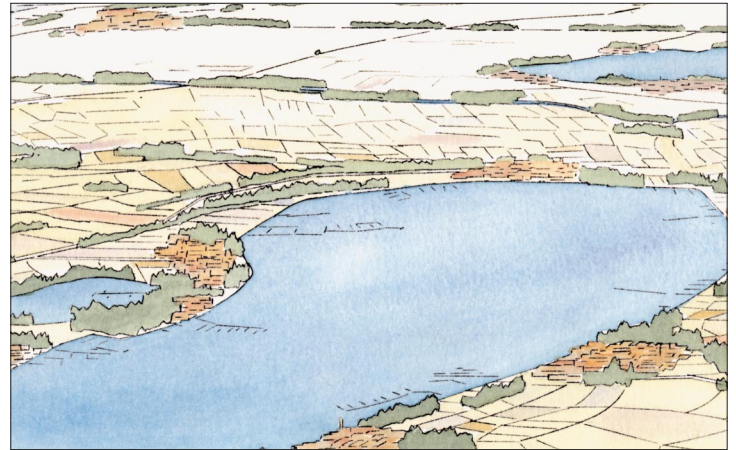


The farm villages will reflect environmental principles

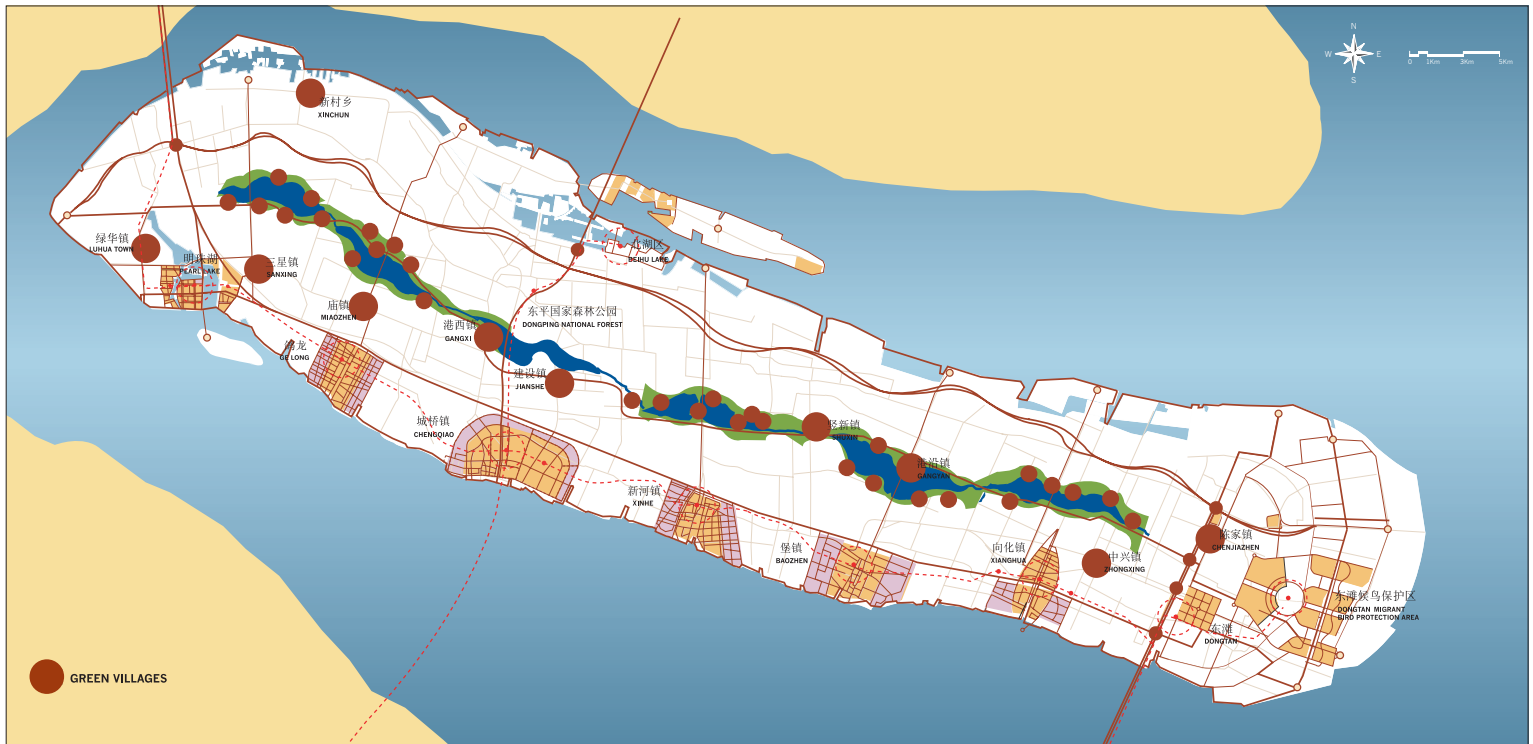
Creating New Settings for
40 Farm Villages

Principles

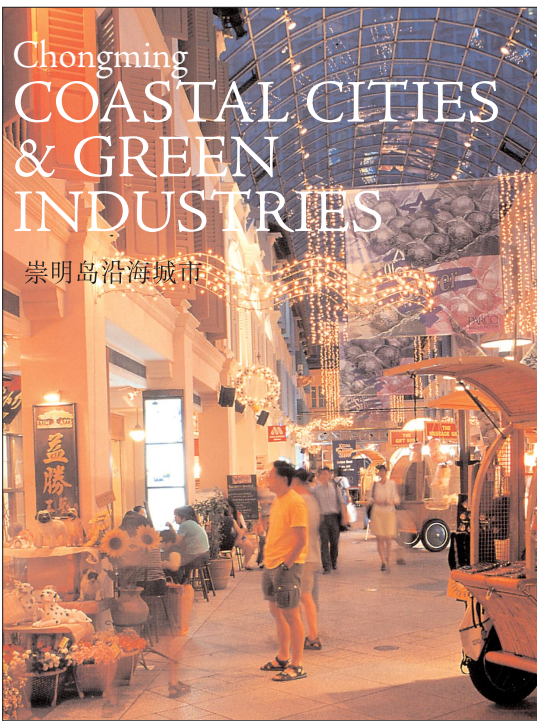
- The new lake system will provide a focus for the 40 interior island villages
- Farming villages will be built to house farmers close to the fields
- Villages will be based on a simple street grid and will have public open spaces
- Each village will have commercial services and housing
- Farming villages will support ±200,000 people averaging 5,000 people per village



A new string of lakes will strengthen the island water system and create a focus for villages



40 villages will accommodate 200,000 people



Chongming COASTAL CITIES & GREEN INDUSTRIES

崇明岛沿海城市

THEME 6: Chongming 8 Compact Coastal Cities

Concept

Creating New, Clean Industries and Compact, Mixed Use Cities along the Waterfront

Principles

- 8 cities will co-exist along the coast of Chongming Island
- Each city will offer housing, commercial uses, educational uses and some industry
- Each city will offer public open space and public waterfront
- Each city will be serviced by transit as well as by boat and car
- Buildings within these cities will be based on green principles
- Coastal cities will support ± 600,000 people
- Cities should reflect world class architecture and sustainable design
- Chongming Island will be known for clean, high technology industries
 - Electric vehicle production and testing
 - Sports equipment, sports training and sports camps
 - Health care, fitness and health centers
 - Aquaculture, farm products and food



A global conference center on Pearl Lake will reflect Shanghai's commitment to ecology



Aquaculture will expand on the island, specializing in crab, shrimp, fish, oysters, pearls



The sports camp and sports equipment manufacturing will reflect a new generation of training and manufacturing



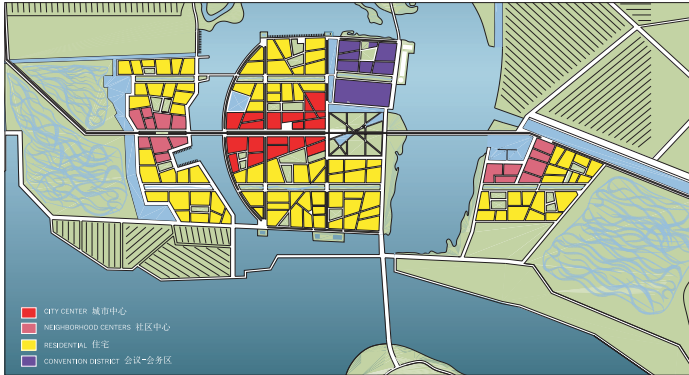
Pearl Lake will be the focus of a new city



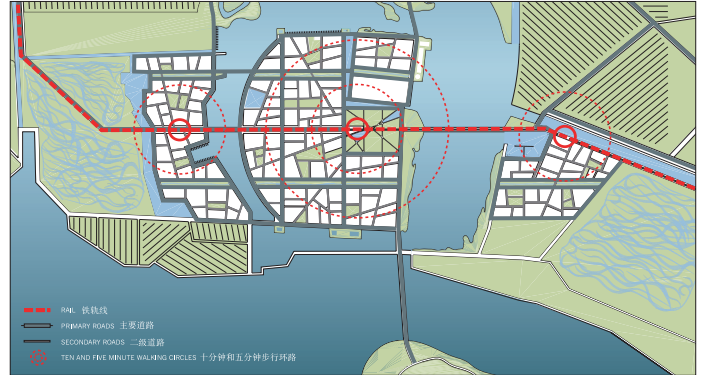
8 cities will accommodate 600,000 people

A NEW CITY FOR CHONGMING ISLAND

PEARL LAKE CITY 明珠湖



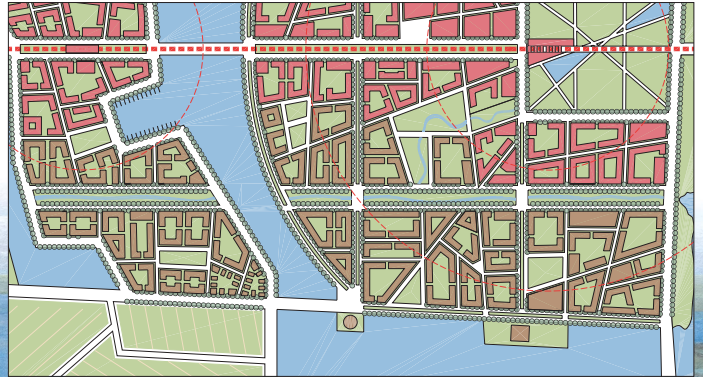
Land Use Plan - Emphasizing mixed use



Transportation Plan - Emphasizing walkability to transit



Green System Plan - Emphasizing biofiltration of grey waters



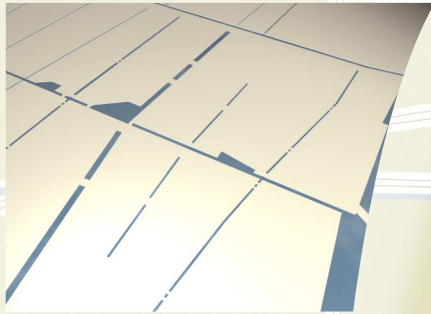
City of Neighborhoods



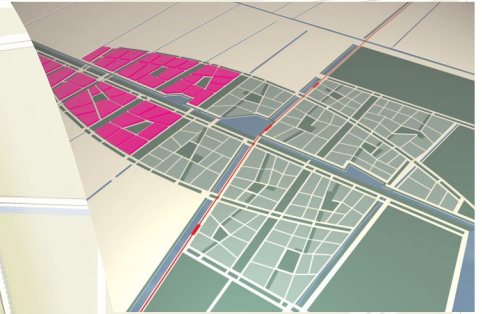
A NEW CITY FOR CHONGMING ISLAND

XIANGHUA CITY 向化

City of Canals



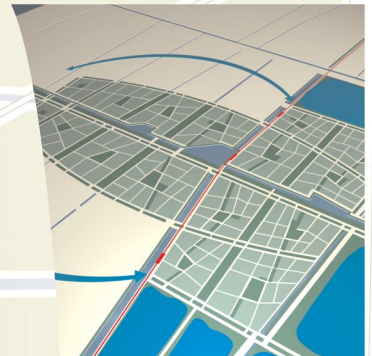
Existing Canals



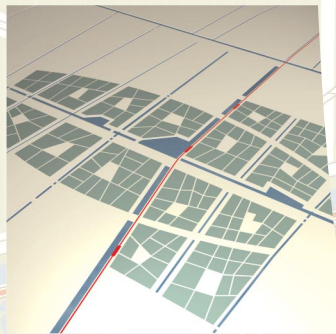
Industrial - Green Industrial; Close adjacencies



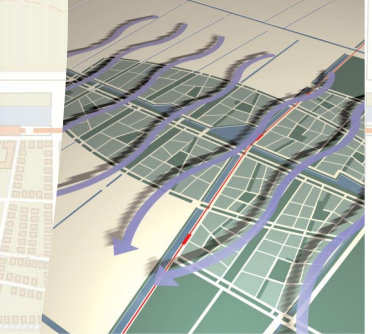
Major Roads; Ensuring access pairing roads and canals



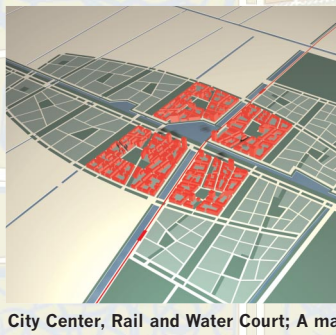
Water System; Creating clean water



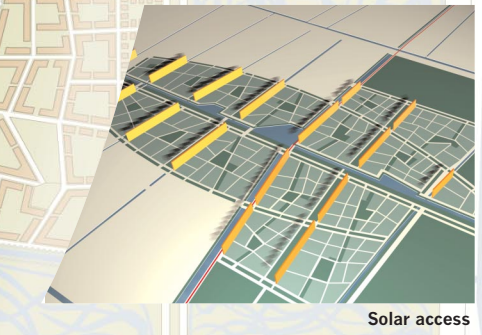
Local Roads; Creating intimate places



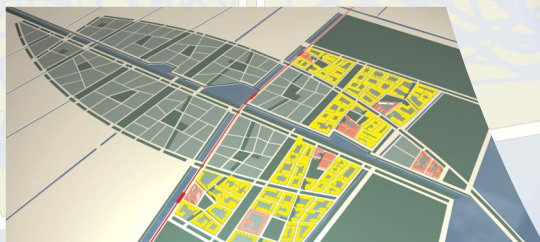
Wind; Natural cooling



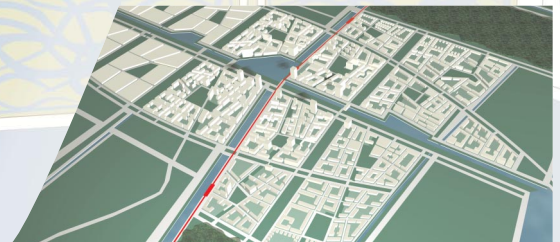
City Center, Rail and Water Court; A major hub



Solar access



Neighborhoods; Distinct and walkable



Composite of Xianghua's sustainable principles