

CIVILIZATION CIVILOPEDIA TEXT
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City Improvements

Airport

City produces veteran air units. Any air unit spending its entire turn in the city is completely repaired.

Requires: Radio
Cost: 160 shields
Maintenance: 3 gold

Aqueduct

Allows city to increase beyond size 8.

Requires: Construction
Cost: 80 shields
Maintenance: 2 gold

Bank

Increases tax and luxury output by an additional 50% (cumulative w/ Marketplace).

Requires: Banking
Cost: 120 shields
Maintenance: 3 gold

Barracks

City produces Veteran ground units. Ground units can be completely repaired in a single turn.

Requires: Nothing
Cost: 40 shields
Maintenance: 1 gold

Capitalization

Converts production into trade.

Requires: Corporation
Cost: 600 shields
Maintenance: 0 gold

Cathedral

Makes four unhappy citizens content (Three after Communism).

Requires: Monotheism
Cost: 120 gold
Maintenance: 3 gold

City Walls

Units in city are tripled on defense versus ground attacks.

Requires: Masonry
Cost: 80 shields
Maintenance: 0 gold

Coastal Fortress

Units in city are doubled on defense against shore bombardment by enemy ships.

Requires: Metallurgy

Cost: 80 shields
Maintenance: 1 gold

Colosseum

Three unhappy citizens are made content (four w/ Electronics).

Requires: Construction
Cost: 100 shields
Maintenance: 4 gold

Courthouse

Decreases corruption by 50%. Makes city more resistant to bribery by enemy diplomats and spies, doubling the cost of inciting a revolt. Under Democracy, one content citizen becomes happy.

Requires: Code of Laws
Cost: 80 shields
Maintenance: 1 gold

Factory

Increases resource production in city by 50%.

Requires: Industrialization
Cost: 200 shields
Maintenance: 4 gold

Granary

Only half of city's food store is depleted when city increases in size.

Requires: Pottery
Cost: 60 shields
Maintenance: 1 gold

Harbor

All ocean squares in the city's radius produce one extra unit of food.

Requires: Seafaring
Cost: 60 shields
Maintenance: 1 gold

Hydro Plant

Increases factory output by 50%. Cleaner than Power Plant, and generally safer than Nuclear Plant.

Requires: Electronics
Cost: 240 shields
Maintenance: 4 gold

Library

Increases science output by 50%.

Requires: Writing
Cost: 80 shields
Maintenance: 1 gold

Manufacturing Plant

Increases resource production by an additional 50% (cumulative w/ Factory).

Requires: Robotics
Cost: 320 shields
Maintenance: 6 gold

Marketplace

Increases tax and luxury output by 50%.

Requires: Currency
Cost: 80 shields
Maintenance: 1 gold

Mass Transit

Eliminates pollution caused by population.

Requires: Mass Production
Cost: 160 shields
Maintenance: 4 gold

Nuclear Plant

Increases factory output by 50%. Cleaner than Power Plant (same as Hydro Plant), but there is a risk of Nuclear Meltdown unless civilization has discovered Fusion.

Requires: Nuclear Power
Cost: 160 shields
Maintenance: 2 gold

Offshore Platform

All ocean squares in the city's radius produce one shield.

Requires: Miniaturization
Cost: 160 shields
Maintenance: 3 gold

Palace

Eliminates corruption and waste in the city, and decreases it in all nearby cities.

Requires: Masonry
Cost: 100 shields
Maintenance: 0 gold

Police Station

Decreases unhappiness caused by troops away from city by 1.

Requires: Communism
Cost: 69 shields
Maintenance: 2 gold

Port Facility

City produces veteran naval units. Any ship spending its entire turn in the city is completely repaired.

Requires: Amphibious Warfare
Cost: 80 shields
Maintenance: 3 gold

Power Plant

Increases factory output by 50%.

Requires: Refining
Cost: 160 shields
Maintenance: 4 gold

Recycling Center

Decreases the pollution caused by factories.

Requires: Recycling
Cost: 200 shields
Maintenance: 2 gold

Research Lab

Increases science output by an additional 50% (cumulative with Library and University for a grand total of 150%).

Requires: Computers
Cost: 160 shields
Maintenance: 3 gold

SAM Missile Battery

Units in city are doubled on defense against air units and non-nuclear missile units.

Requires: Rocketry
Cost: 100 shields
Maintenance: 2 gold

SDI Defense

Protects everything within three spaces of the city from nuclear attack.

Requires: Laser
Cost: 200 shields
Maintenance: 4 gold

Sewer System

Allows city to grow beyond size 12.

Requires: Sanitation
Cost: 120 shields
Maintenance: 2 gold

Solar Plant

Increases factory output by 50%. Cleaner than all other forms of power.

Requires: Environmentalism
Cost: 320 shields
Maintenance: 4 gold

Stock Exchange

Increases tax and luxuries output by an additional 50% (cumulative with Marketplace and Bank for a grand total of 150%).

Requires: Economics
Cost: 160 shields
Maintenance: 4 gold

Superhighways

All squares in the city's radius with roads (or railroads) produce 50% more trade.

Requires: Automobile
Cost: 200 shields
Maintenance: 5 gold

Supermarket

Allows squares in the city's radius with the "farmland" improvement (irrigated twice) to produce 50% more food.

Requires: Refrigeration
Cost: 80 shields

Maintenance: 3 gold

Temple

Up to two discontented citizens are made content.

Requires: Ceremonial Burial
Cost: 40 shields
Maintenance: 1 gold

University

Increases science output by an additional 50% (cumulative w/ Library).

Requires: University
Cost: 160 shields
Maintenance: 3 gold

Space Ship Components

SS Component

PROPULSION COMPONENTS: Each component adds 12.5% to the spaceship's thrust. Consequently, the vessel can handle, at most, 8 propulsion components.

FUEL COMPONENTS: Each component provides enough fuel for one propulsion component, so one fuel component is needed for each propulsion component.

Requires: Plastics
Cost: 160 shields
Maintenance: 0 gold

SS Module

POPULATION: Each module provides enough living space for 10,000 colonists.

LIFE SUPPORT: Each module provides food, air, water, and other needed supports for one population module.

SOLAR PANEL: Each module provides power for two other modules.

Requires: Superconductor
Cost: 320 shields
Maintenance: 0 gold

SS Structural

Forms the framework of your spaceship.

Requires: Space Flight
Cost: 80 shields
Maintenance: 0 gold

Wonders of the World

Adam Smith's Trading Co.

Pays the maintenance for all city improvements which ordinarily cost 1 gold per turn. City improvements requiring more than 1 gold per turn maintenance are not affected.

Requires: Economics
Cost: 400 shields
Expires: **Never**

Apollo Program

Allows construction of spaceship improvements.

Requires: Space Flight
Cost: 600 shields
Expires: **Never**

Colossus

City produces one extra trade arrow in each square that already produces one.

Requires: Bronze Working
Cost: 200 shields
Expires: Flight

Copernicus' Observatory

Doubles the total science output of city.

Requires: Astronomy
Cost: 300 shields
Expires: **Never**

Cure for Cancer

One extra happy citizen in each city.

Requires: Genetic Engineering
Cost: 600 shields
Expires: **Never**

Darwin's Voyage

Two free civilization advances.

Requires: Railroad
Cost: 400 shields
Expires: **Never**

Eiffel Tower

When you first obtain control of the Eiffel Tower, Every civilization's attitude toward you is immediately shifted 25 points in your favor (on a hundred point scale). Attitudes continue to improve gradually over time. Other civilizations are also quicker to forget your past transgressions.

Requires: Steam Engine
Cost: 300 shields
Expires: **Never**

Great Library

Civilization receives any civilization advance already discovered by two other civilizations.

Requires: Literacy
Cost: 300 shields
Expires: Electricity

Great Wall

Enemy civilizations must offer cease-fire/peace in negotiations. Combat strength doubled against barbarians.

Requires: Masonry
Cost: 300 shields
Expires: Metallurgy

Hanging Gardens

One extra happy citizen in every city.

Requires: Pottery
Cost: 200 shields
Expires: Railroad

Hoover Dam

Provides Hydro power to every city on every continent.

Requires: Electronics
Cost: 600 shields
Expires: **Never**

Isaac Newton's College

Doubles the science output of each of the three science improvements - library, university, and research laboratory - in city.

Requires: Theory of Gravity
Cost: 400 shields
Expires: **Never**

J.S. Bach's Cathedral

Decreases unhappy citizens on same continent by 2 per city.

Requires: Theology
Cost: 400 shields
Expires: **Never**

King Richard's Crusade

Every square in the city's radius produces an extra resource "shield".

Requires: Engineering
Cost: 300 shields
Expires: Industrialization

Leonardo's Workshop

Whenever one of your units becomes obsolete because of a new technology you have discovered, it is immediately replaced by an equivalent modern unit.

Requires: Invention
Cost: 400 shields
Expires: Automobile

Lighthouse

Triremes can move across oceans w/o danger, and all other types of ship have their movement rate increased by one. Also, all new ships you produce receive veteran status.

Requires: Mapmaking
Cost: 200 shields
Expires: Magnetism

Magellan's Expedition

Movement rate of all ships is increased by two.

Requires: Navigation
Cost: 400 shields
Expires: **Never**

Manhattan Project

Allows nuclear weapons to be built.

Requires: Nuclear Fission
Cost: 600 shields
Expires: **Never**

Marco Polo's Embassy

You receive a free embassy with every rival Civilization (so your intelligence report will always be complete and you will receive updates when other civilizations discover technologies).

Requires: Trade
Cost: 200 shields
Expires: Communism

Michelangelo's Chapel

Counts as a Cathedral in each of your cities.

Requires: Monotheism
Cost: 400 shields
Expires: **Never**

Oracle

Doubles the effect of all of your temples.

Requires: Mysticism
Cost: 300 shields
Expires: Theology

Pyramids

Counts as a Granary in every one of your cities.

Requires: Masonry
Cost: 200 shields
Expires: **Never**

SETI Program

Counts as a research lab in every one of your cities; effectively doubles your science output.

Requires: Computers
Cost: 600 shields
Expires: **Never**

Shakespeare's Theatre

All unhappy citizens in city are content.

Requires: Medicine
Cost: 300 shields
Expires: **Never**

Statue of Liberty

Eliminates the period of unrest between governments. Also allows any form of government to be chosen, even if the proper advance has not been discovered.

Requires: Democracy
Cost: 400 shields
Expires: **Never**

Sun Tzu's War Academy

All new ground units produced gain Veteran status. Any unit which wins a combat gains Veteran status.

Requires: Feudalism

Cost: 300 shields
Expires: Mobil Warfare

United Nations

Free embassy with every other civilization. Enemy civ's cannot refuse your peace treaties. As a democracy, you can declare war 50% of the time (peacekeeping missions).

Requires: Communism
Cost: 600 shields
Expires: **Never**

Women's Suffrage

Counts as a Police Station in every one of your cities. (Decreases unhappiness caused by troops away from city by 1).

Requires: Industrialization
Cost: 600 shields
Expires: **Never**

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Types of Government

The form of government you choose for your civilization will affect the way resources are distributed in your cities, the rate at which your citizens can produce and sustain new units and city improvements, and the extent to which your citizens have a say in the way you govern them.

Some forms of government, such as Despotism, Monarchy, and later Communism and Fundamentalism, allow you to expand rapidly, to produce and sustain large numbers of military units, and to control your affairs completely.

Democracy and the Republic, on the other hand, give your citizens the freedom to produce vast amounts of trade, which increases your wealth and knowledge rapidly. On the other hand, your citizens may grow unhappy when you send military units out of your cities; also, your Senate may try to interfere in your conduct of foreign affairs.

To change your civilization's government, you must have a Revolution--select "Revolution" from the Kingdom Menu. This will entail a brief period of Anarchy.

ANARCHY

Anarchy represents not so much a government type as the lack of any stable government. Anarchy occurs when your civilization's government falls, or when you decide to have a Revolution. After a few turns of Anarchy, you will be able to reconstitute your government.

Anarchy is similar to Despotism, except that the corruption rate is VERY HIGH (see entry for Despotism). However, no taxes are collected during a period of Anarchy, and no scientific research is conducted.

DESPOTISM

Unit Support

Each unit above the city size costs one shield per turn. Settlers eat one food per turn.

Happiness

Up to three military units in each city will institute "martial law", converting an unhappy citizen into a content citizen.

Corruption and Waste

Despotism has a HIGH rate of corruption and waste. The level of corruption in a particular city is based on its distance from your capital.

Special

Under a Despotism, none of the science/tax/luxury rates may be set higher than 60%. ALSO, ANY SQUARE WHICH WOULD ORDINARILY PRODUCE THREE OR MORE OF A RESOURCE (FOOD, SHIELDS, TRADE) PRODUCES ONE LESS.

Hints

Because of Despotism's high rate of corruption, it is almost always an inferior form of government. Try to switch to a Monarchy as soon as possible.

MONARCHY

Unit Support

Each unit beyond the third costs one shield per turn. Settlers eat one food per turn.

Happiness

Up to three military units in each city will institute "martial law", converting an unhappy citizen into a content citizen.

Corruption and Waste

Monarchy has a MODERATE rate of corruption and waste. The level of corruption in a particular city is based on its distance from your capital.

Special

Under a Monarchy, none of the science/tax/luxury rates may be set higher than 70%.

Hints

Monarchy is an excellent form of government for a young civilization.

COMMUNISM

Unit Support

Each unit beyond the third costs one shield per turn. Settlers eat one food per turn.

Happiness

Up to three military units in each city will institute "martial law", converting *TWO* unhappy citizens into content citizens (so a total of SIX unhappy citizens can be suppressed).

Corruption and Waste

Under Communism, state control of the economy eliminates organized crime. Your cities, therefore, experience no corruption.

Special

All SPY units produced under Communist governments are given VETERAN status. Under Communism, none of the science/tax/luxury rates may be set higher than 80%.

Hints

Communism is best for large, far-flung empires which need to maintain a large military. Use your powerful spies to steal technology from the capitalist pigs.

FUNDAMENTALISM

Unit Support

Can support up to EIGHT units for free; additional units cost one shield each. Settlers eat TWO food per turn. ONLY Fundamentalisms may produce FANATIC units.

Happiness

Under Fundamentalism, NO CITIZEN IS EVER UNHAPPY!

Corruption and Waste

Fundamentalism has a LOW rate of corruption. However, Fundamentalism has the special disadvantage that all SCIENCE is HALVED.

Special

Improvements which convert unhappy citizens to content citizens (Temples, etc.) produce "tithes" equal to the number of citizens they would otherwise convert. They also require no maintenance. The diplomatic penalties for "terrorist acts" committed by your Diplomats and Spies are reduced. Under Fundamentalism, none of the

science/tax/luxury rates may be set higher than 80%.

Hints

Fundamentalism eliminates all happiness problems, provides excellent revenue, but reduces scientific research.

REPUBLIC

Unit Support

Each unit costs one shield per turn. Settlers eat TWO food per turn.

Happiness

Each military unit AFTER THE FIRST which is not in a friendly city (or a fortress within 3 spaces of a friendly city) causes one citizen in its home city to become unhappy.

Corruption and Waste

The Republic has a LOW rate of corruption and waste. The level of corruption in a particular city is based on its distance from your capital.

Special

Under a Republic, each square which ordinarily produces at least one unit of trade produces an extra unit. None of the science/tax/luxury rates may be set higher than 80%.

Hints

Switching to a Republic can give an astounding boost to your science and tax revenues, although you'll probably have to divert some of your trade to luxuries. It becomes more difficult (and expensive) to keep an army in the field, but building the Womens Suffrage wonder can help with this problem.

DEMOCRACY

Unit Support

Each unit costs one shield per turn. Settlers eat TWO food per turn.

Happiness

Each unit which is not in a friendly city (or a fortress within 3 spaces of a friendly city) causes TWO citizens in its home city to become unhappy.

Corruption and Waste

Democracies experience NO corruption or waste.

Special

Under a Democracy, each square which ordinarily produces at least one unit of trade produces an extra unit. The units and cities of a Democracy are immune to BRIBERY of all forms. The science/tax/luxury rates may be set to any level desired.

Hints

Democracies can produce spectacular amounts of revenue and scientific research. However, because of the severe happiness restrictions on military units, this form of government tends to be viable only for large, advanced civilizations. Increasing your luxuries rate and building Wonders can help alleviate this problem.

Civilization Advances

Advance	Requires	Allows
Advanced Flight	Radio, Machine Tools	Combined Arms (w. Mobil Warfare), Rocketry (w. Electronics) <i>Bomber, Carrier</i>
Alphabet	Nothing	Code of Laws, Mapmaking, Mathematics (w. Masonry), Writing
Amphibious Warfare	Navigation, Tactics	Port Facility <i>Marines</i>
Astronomy	Mysticism, Mathematics	Navigation (w. Seafaring), Theory of Gravity (w. University) <u>Copernicus' Observatory</u>
Atomic Theory	Theory of Gravity, Physics	Nuclear Fission (w. Mass Production)
Automobile	Combustion, Steel	Mass Production (w. Corporation), Mobil Warfare (w. Tactics) Superhighways <i>Battleship</i> *Cancels effect of <u>Leonardo's Workshop</u>
Banking	Trade, Republic	Democracy (w. Invention), Economics (w. University), Industrialization (w. Railroad) Bank
Bridge Building	Iron Working, Construction	Railroad (w. Steam Engine)
Bronze Working	Nothing	Currency, Iron Working (w. Warrior Code) <u>Colossus</u> <i>Phalanx</i>
Ceremonial Burial	Nothing	Monarchy (w. Code of Laws), Mysticism, Polytheism (w. Horseback Riding) Temple
Chemistry	University, Medecine	Explosives (Gunpowder), Refining (Corporation)
Chivalry	Feudalism, Horseback Riding	Leadership (w. Gunpowder) <i>Knights</i>
Code of Laws	Alphabet	Literacy (w. Writing), Monarchy (w. Ceremonial Burial), Trade (w. Currency) Courthouse
Combined Arms	Mobile Warfare, Advanced Flight	<i>Paratroopers, Helicopter</i>

Combustion	Refining, Explosives	Automobile (w. Steel), Flight (w. Theory of Gravity) <i>Submarine</i>
Communism	Philosophy, Industrialization	Espionage (Democracy), Guerrilla Warfare (Tactics) Police Station. United Nations Allows government form of same name. Decreases the effect of Cathedrals . Cancels the effect of Marco Polo's Embassy .
Computers	Miniaturization, Mass Production	Robotics (w. Mobile Warfare), Space Flight (w. Rocketry) Research Lab. SETI Program.
Conscription	Democracy, Metallurgy	Fundamentalism (w. Monotheism), Tactics (w. Leadership) <i>Riflemen</i>
Construction	Masonry, Currency	Bridge Building (w. Iron Working), Engineering (w. The Wheel) Aqueduct, Colosseum Allows <i>Settlers</i> to build Fortresses .
Corporation	Industrialization, Economics	Electronics (w. Electricity), Genetic Engineering (w. Medicine), Mass Production (w. Automobile), Refining (w. Chemistry) Capitalization <i>Freight</i>
Currency	Bronze Working	Construction (w. Masonry), Trade (w. Code of Laws) Marketplace
Democracy	Banking, Invention	Conscription (w. Metallurgy), Espionage (w. Communism), Recycling (w. Mass Production) Statue of Liberty Allows government form of same name.
Economics	University, Banking	Corporation (w. Industrialization) Stock Exchange Adam Smith's Trading Company
Electricity	Metallurgy, Magnetism	Electronics (w. Corporation), Radio (w. Flight), Refrigeration (w. Sanitation), Steel (w. Industrialization) <i>Destroyer</i> Cancels effect of Great Library .

Electronics	Electricity, Corporation	Miniaturization (w. Machine Tools), Nuclear Power (w. Nuclear Fission), Rocketry (w. Advanced Flight) Hydro Plant Hoover Dam Increases effect of Colosseums .
Engineering	Wheel, Construction	Invention (w. Literacy), Sanitation (w. Medicine) King Richard's Crusade
Environmentalism	Recycling, Space Flight	Solar Plant
Espionage	Communism, Democracy	<i>Spy</i>
Explosives	Gunpowder, Chemistry	Combustion (w. Refining) <i>Engineers</i>
Feudalism	Warrior Code, Monarchy	Chivalry (w. Horseback Riding), Theology (w. Monotheism) Sun Tzu's War Academy <i>Pikemen</i>
Flight	Combustion, Theory of Gravity	Radio (w. Electricity) <i>Fighter</i> Cancels effect of Colossus
Fundamentalism	Monotheism, Conscriptation	<i>Fanatics</i> Allows government form of same name.
Fusion Power	Nuclear Power, Superconductor	Future Technology (w. Recycling) Improves spaceship thrust by 25%
Genetic Engineering	Medicine, Corporation	Cure for Cancer
Guerrilla Warfare	Communism, Tactics	Labor Union (w. Mass Production) <i>Partisans</i>
Gunpowder	Invention, Iron Working	Explosives (w. Chemistry), Leadership (w. Chivalry), Metallurgy (w. University) <i>Musketeers</i>
Horseback Riding	Nothing	Chivalry (w. Feudalism), Polytheism (w. Ceremonial Burial), Wheel <i>Horsemen</i>
Industrialization	Railroad, Banking	Communism (w. Philosophy), Corporation (w. Economics), Steel (w. Electricity) Factory Women's Suffrage <i>Transport</i> Cancels effect of King Richard's Crusade

Invention	Engineering, Literacy	Democracy (w. Banking), Gunpowder (w. Iron Working), Steam Engine (w. Physics) <u>Leonardo's Workshop</u>
Iron Working	Bronze Working, Warrior Code	Bridge Building (w. Construction), Gunpowder (w. Invention), Magnetism (w. Physics) <i>Legion</i>
Labor Union	Mass Production, Guerrilla Warfare	<i>Mechanized Infantry</i>
Laser	Nuclear Power, Mass Production	Superconductor (w. Plastics) SDI Defense
Leadership	Chivalry, Gunpowder	Tactics (w. Conscription) <i>Dragoons</i>
Literacy	Writing, Code of Laws	Invention (w. Engineering), Philosophy (w. Mysticism), Physics (w. Engineering), Republic <u>Great Library</u>
Machine Tools	Steel, Tactics	Advanced Flight (w. Radio), Miniaturization (w. Electronics) <i>Artillery</i>
Magnetism	Physics, Iron Working	Electricity (w. Metallurgy) <i>Galleon, Frigate</i> Cancels effect of <u>Lighthouse</u>
Map Making	Alphabet	Seafaring (w. Pottery) <u>Lighthouse</u> <i>Trireme</i>
Masonry	Nothing	Construction (w. Currency), Mathematics (w. Alphabet) Palace, City Walls <u>Pyramids, Great Wall</u>
Mass Production	Automobile, Corporation	Computers (w. Miniaturization), Labor Union (w. Guerrilla Warfare), Laser (w. Nuclear Power), Nuclear Fission (w. Atomic Theory), Recycling (w. Democracy) Mass Transit
Mathematics	Alphabet, Masonry	Astronomy (w. Mysticism), University (w. Philosophy) <i>Catapult</i>
Medicine	Philosophy, Trade	Chemistry (w. University), Genetic Engineering (w. Corporation), Sanitation (w. Engineering) <u>Shakespeare's Theatre</u>

Metallurgy	Gunpowder, University	Conscription (w. Democracy), Electricity (w. Magnetism) Coastal Fortress <i>Cannon</i> Cancels effect of <u>Great Wall</u>
Miniaturization	Machine Tools, Electronics	Computers (w. Mass Production) Offshore Platform
Mobile Warfare	Automobile, Tactics	Combined Arms (w. Advanced Flight), Robotics (w. Computers) <i>Armor</i> Cancels effect of <u>Sun Tzu's War Academy</u>
Monarchy	Ceremonial Burial, Code of Laws	Feudalism (w. Warrior Code) Allows form of government of same name.
Monotheism	Philosophy, Polytheism	Fundamentalism (w. Conscription), Theology (w. Feudalism) Cathedral <u>Michaelangelo's Chapel</u> <i>Crusaders</i>
Mysticism	Ceremonial Burial	Astronomy (w. Mathematics), Philosophy (w. Literacy) <u>Oracle</u> Increases effect of Temples
Navigation	Seafaring, Astronomy	Amphibious Warfare (w. Tactics), Physics (w. Literacy) <u>Magellan's Expedition</u> <i>Caravel</i>
Nuclear Fission	Atomic Theory, Mass Production	Nuclear Power (w. Electronics) <u>Manhattan Project</u>
Nuclear Power	Nuclear Fission, Electronics	Fusion Power (w. Superconductor), Laser (w. Mass Production) Nuclear Plant Increases ship movement rates by one
Philosophy	Mysticism, Literacy	Communism (w. Industrialization), Medicine (w. Trade), Monotheism (w. Polytheism), University (w. Mathematics) One free Civilization Advance to the first civilization to discover
Physics	Navigation, Literacy	Atomic Theory (w. Theory of Gravity), Magnetism (w. Iron Working), Steam Engine (w. Invention)
Plastics	Refining, Space Flight	Superconductor (w. Laser) <u>SS Component</u>

Polytheism	Ceremonial Burial, Horesback Riding	Monotheism (w. Philosophy) <i>Elephant</i>
Pottery	Nothing	Seafaring (w. Map Making) Granary <u>Hanging Gardens</u>
Radio	Flight, Electricity	Advanced Flight (w. Machine Tools) Airport Allows <i>Settlers</i> and <i>Engineers</i> to build <i>Airbases</i>
Railroad	Steam Engine, Bridge Building	Industrialization (w. Banking) <u>Darwin's Voyage</u> Allows <i>Settlers</i> and <i>Engineers</i> to build <i>Railroads</i> Cancels effect of <u>Hanging Gardens</u>
Recycling	Mass Production, Democracy	Environmentalism (w. Space Flight), Future Technology (w. Fusion Power) Recycling Center
Refining	Chemistry, Corporation	Combustion (w. Explosives), Plastics (w. Space Flight) Power Plant
Refrigeration	Electricity, Sanitation	Supermarket Allows <i>Settlers</i> and <i>Engineers</i> to convert irrigated land to <i>Farmland</i>
Republic	Literacy	Banking (w. Trade) Allows government form of same name
Robotics	Computers, Mobil Warfare	Stealth (w. Superconductor) Manufacturing Plant <i>Howitzer</i>
Rocketry	Advanced Flight, Electronics	Space Flight (w. Computers) <i>AEGIS Cruiser, Cruise Missile, Nuclear Missile</i>
Sanitation	Medicine, Engineering	Refrigeration (w. Electricity) Sewer System
Seafaring	Map Making, Pottery	Navigation (w. Astronomy) Harbor <i>Explorer</i>
Space Flight	Computers, Rocketry	Environmentalism (Recycling), Plastics (Refining) <u><i>SS Structural</i></u> <u>Apollo Program</u>
Stealth	Superconductor, Robotics	<i>Stealth Fighter, Stealth Bomber</i>

Steam Engine	Physics, Invention	Railroad (w. Bridge Building) <u>Eiffel Tower</u> <i>Ironclad</i>
Steel	Electricity, Industrialization	Automobile (w. Combustion), Machine Tools (w. Tactics) <i>Cruiser</i>
Superconductor	Plastics, Laser	Fusion Power (w. Nuclear Power), Stealth (w. Robotics) <u>SS Module</u>
Tactics	Conscription, Leadership	Amphibious Warfare (w. Navigation), Guerrilla Warfare (w. Communism), Machine Tools (w. Steel), Mobil Warfare (w. Automobile) <i>Alpine Troops, Cavalry</i>
Theology	Monotheism, Feudalism	<u>J. S. Bach's Cathedral</u> Cancels effect of <u>Oracle</u>
Theory of Gravity	Astronomy, University	Atomic Theory (w. Physics), Flight (w. Combustion) <u>Isaac Newton's College</u>
Trade	Currency, Code of Laws	Banking (w. Republic), Medicine (w. Philosophy) <u>Marco Polo's Embassy</u> <i>Caravan</i>
University	Mathematics, Philosophy	Chemistry (w. Medicine), Economics (w. Banking), Metallurgy (w. Gunpowder), Theory of Gravity (w. Astronomy) University
Warrior Code	Nothing	Feudalism (w. Monarchy), Iron Working (w. Bronze Working) <i>Archers</i>
Wheel	Horseback Riding	Engineering (w. Construction) <i>Chariot</i>
Writing	Alphabet	Literacy (w. Code of Laws)

Unit Descriptions

Unit	Cost	Move	Att	Def	Hit Points	Fire Power	Comments (required Advance in bold , obsoleting Advance in <i>italic</i>)
AEGIS Cruiser	100	5	8	8	3	2	Rocketry. <i>Nothing.</i> Sees units two spaces away. Defense +100% against air and missile units. Sees enemy submarines in adjacent squares.
Alpine Troops	50	1 (3)	5	5	2	1	Tactics. <i>Nothing.</i> Treats all non-RR squares as roads.
Archers	30	1	3	2	1	1	Warrior Code. <i>Gunpowder.</i>
Armor	80	3	10	5	3	1	Mobil Warfare. <i>Nothing.</i>
Artillery	50	1	10	1	2	2	Machine Tools. <i>Robotics.</i>
Battleship	160	4	12	12	4	2	Automobile. <i>Nothing.</i> Sees units two spaces away.
Bomber	120	8	12	1	2	2	Advanced Flight. <i>Stealth.</i> Sees units two spaces away. Ignores city walls.
Cannon	40	1	8	1	2	1	Metallurgy. <i>Machine Tools.</i>
Caravan	50	1	0	1	1	1	Trade. <i>Corporation.</i> Ignores enemy zones of control.
Caravel	40	3	2	1	1	1	Navigation. <i>Magnetism.</i> Transports 3 ground units.
Carrier	160	5	1	9	4	2	Advanced Flight. <i>Nothing.</i> Sees units two spaces away. Transports 8 air or missile units.
Catapult	40	1	6	1	1	1	Mathematics. <i>Metallurgy.</i>
Cavalry	60	2	8	3	2	1	Tactics. <i>Mobile Warfare.</i>
Chariot	30	2	3	1	1	1	Wheel. <i>Polytheism.</i>
Cruise Missile	60	12	18	0	1	3	Rocketry. <i>Nothing.</i> Destroyed after attacking. Must hit target at end of turn or end in a city or on a carrier or submarine.
Cruiser	80	5	6	6	3	2	Steel. <i>Rocketry.</i> Sees units two spaces away. Sees enemy submarines in adjacent squares.
Crusaders	40	2	5	1	1	1	Monotheism. <i>Leadership.</i>

Destroyer	60	6	4	4	3	1	Electricity. <i>Nothing.</i> Sees units two spaces away. Sees enemy submarines in adjacent squares.
Diplomat	30	2	0	0	1	1	Writing. <i>Espionage.</i> Ignores enemy zones of control.
Dragoons	50	2	5	2	2	1	Leadership. <i>Tactics.</i>
Elephant	40	2	4	1	1	1	Polytheism. <i>Monotheism.</i>
Engineers	40	2	0	2	2	1	Explosives. <i>Nothing.</i>
Explorer	30	1	0	1	1	1	Seafaring. <i>Guerrilla Warfare.</i> Ignores enemy zones of control. Treats all non-RR squares as roads.
Fanatics	20	1	4	4	2	1	Fundamentalism. <i>Nothing.</i> Only fundamentalist governments can build.
Fighter	60	10	4	3	2	2	Flight. <i>Stealth.</i> Can see units two spaces away. Can attack aircraft in flight. Ignores city walls.
Freight	50	2	0	1	1	1	Corporation. <i>Nothing.</i> Ignores enemy zones of control.
Frigate	50	4	4	2	2	1	Magnetism. <i>Electricity.</i> Transports 2 ground units.
Galleon	40	4	0	2	2	1	Magnetism. <i>Industrialization.</i> Transports 4 ground units.
Helicopter	100	6	10	3	2	2	Combined Arms. <i>Nothing.</i> Sees units two spaces away. Sees enemy submarines in adjacent squares. Ignores city walls.
Horsemen	20	2	2	1	1	1	Horseback Riding. <i>Chivalry.</i>
Howitzer	70	2	12	2	3	2	Robotics. <i>Nothing.</i> Ignores city walls.
Ironclad	60	4	4	4	3	1	Steam Engine. <i>Electricity.</i>
Knights	40	2	4	2	1	1	Chivalry. <i>Leadership.</i>
Legion	40	1	4	2	1	1	Iron Working. <i>Gunpowder.</i>
Marines	60	1	8	5	2	1	Amphibious Warfare. <i>Nothing.</i> Can make amphibious assaults.
Mech. Infantry	50	3	6	6	3	1	Labor Union. <i>Nothing.</i>

Musketeers	30	1	3	3	2	1	Gunpowder. <i>Conscription.</i>
Nuclear Missile	160	16	99	0	1	1	Rocketry. <i>Nothing.</i> Destroyed after attacking. Must hit target at end of turn or end in a city or on a carrier or submarine.
Paratroopers	60	1	6	4	2	1	Combined Arms. <i>Nothing.</i> Can make parachute drops up to 10 squares from city of origination. Paradrop does not count as part of movement allowance.
Partisans	50	1.5	4	4	2	1	Guerrilla Warfare. <i>Nothing.</i> Ignores enemy zones of control. Treats all non-RR squares as roads.
Phalanx	20	1	1	2	1	1	Bronze Working. <i>Feudalism.</i>
Pikemen	20	1	1	3	1	1	Feudalism. <i>Gunpowder.</i> Defense +50% against units with a movement factor of 2.
Riflemen	40	1	5	4	2	1	Conscription. <i>Nothing.</i>
Settlers	40	1	0	1	2	1	Nothing. <i>Explosives.</i>
Spy	30	3	0	0	1	1	Espionage. <i>Nothing.</i> Sees units two spaces away. Ignores enemy zones of control.
Stealth Bomber	160	12	14	5	2	2	Stealth. <i>Nothing.</i> Sees units two spaces away. Ignores city walls.
Stealth Fighter	80	14	8	4	2	2	Stealth. <i>Nothing.</i> Sees units two spaces away. Can attack aircraft in flight. Ignores city walls.
Submarine	60	3	10	2	3	2	Combustion. <i>Nothing.</i> Sees units two spaces away. Invisible to all enemy units except AEGIS cruisers, cruisers, destroyers, and helicopters. Transports 8 missile units
Transport	50	5	0	3	3	1	Industrialization. <i>Nothing.</i> Transports 8 ground units.
Trireme	40	3	1	1	1	1	Map Making. <i>Navigation.</i> May be lost if turn ends not adjacent to land. Transports 2 ground units.
Warriors	10	1	1	1	1	1	Nothing. <i>Feudalism.</i>

Terrain and Resource Descriptions

Type	Food	Shields	Trade	Move Cost	Defense Bonus	Irrigation Result	Mining Result	Road Effect	Transform
Desert	0	1	0	1	Normal	+1 Food	+1 Shield	+1 Trade	Plains
Oasis	3	1	0	1	Normal				
Oil	0	4	0	1	Normal				
Forest	1	2	0	2	+ 50%	Plains	None	None	Grassland
Pheasant	3	2	0	2	+ 50%				
Silk	1	2	3	2	0.5				
Glacier	0	0	0	2	Normal	None	+1 Shield	None	Tundra
Ivory	1	1	4	2	Normal				
Oil	0	4	0	2	Normal				
Grassland	2	1	0	1	Normal	+1 Food	Forest	+1 Trade	Hills
Shield	2	1	0	1	Normal				
Hills	1	0	0	2	+ 100%	+1 Food	+3 Shields	None	Plains
Coal	1	2	0	2	+ 100%				
Wine	1	0	4	2	+ 100%				
Jungle	1	0	0	2	+ 50%	Grassland	Forest	None	Plains
Fruit	4	0	1	2	+ 50%				
Gems	1	0	4	2	+ 50%				
Mountains	0	1	0	3	+ 200%	None	+1 Shield	None	Hills
Gold	0	1	6	3	+ 200%				
Iron	0	4	0	3	+ 200%				
Ocean	1	0	2	1	Normal	None	None	None	None
Fish	3	0	2	1	Normal				
Whales	2	2	3	1	Normal				
Plains	1	1	0	1	Normal	+1 Food	Forest	+1 Trade	Grassland
Buffalo	1	3	0	1	Normal				
Wheat	3	1	0	1	Normal				
Swamp	1	0	0	2	+ 50%	Grassland	Forest	None	Plains
Peat	1	4	0	2	+ 50%				
Spice	3	0	4	2	+ 50%				

Type	Food	Shields	Trade	Move Cost	Defense Bonus	Irrigation Result	Mining Result	Road Effect	Transform
Tundra	1	0	0	1	Normal	+1 Food	None	None	Desert
Furs	2	0	3	1	Normal				
Game	3	1	0	1	Normal				

Concept Descriptions

Airbases

After the discovery of Radio, your Settlers and Engineers have the ability to construct Airbases. Airbases act as remote refueling stations for Fighters, Bombers, Stealth Fighters, and Stealth Bombers. Strategically placed Airbases effectively extend the range of these units, allowing them to operate farther from friendly cities and Carriers. Airbases cannot be used for airlifts.

To build an Airbase, chose the "Airbase" command from the Orders menu, or press the "e" key.

Airlift

After the discovery of Combined Arms, you have the ability to perform Airlift operations between your cities. Airlifting allows you to move units instantly over great distances. In order to Airlift a unit between two cities, both cities must have an Airport.

To Airlift a unit, move the unit into a city with an Airport and choose "Airlift" from the Orders menu, or press the "1" key. A menu of possible destinations appears. Choose the destination city from the menu, and the unit is instantly transported to that city. The unit becomes available for use on the following turn. A city can airlift in or out only one unit per turn.

City Squares

The resources utilized by a city are generated not only in the squares surrounding the city but also by the city square itself. The city square generates all the resources normally produced by the Terrain type on which the city is built. In addition, the Terrain square occupied by the city is improved to the maximum extent possible. The city square automatically contains a road, which is upgraded to a railroad when the Railroad Advance is discovered. The city square is also automatically irrigated or mined, depending on the type of terrain. Finally, if the city is built on Terrain that normally produces no Shields, one Shield is automatically added to the other resources generated in the city square. These enhancements ensure the city square produces the maximum amount of resources possible.

Combat Damage

Units can be damaged by combat. In each successful attack, a unit inflicts an amount of damage equal to its Firepower rating. The amount of damage a unit can sustain before it is destroyed is determined by multiplying the unit's Hit Point rating by ten.

The approximate amount of damage a unit has sustained can be determined by the length and color of the unit's damage bar (the colored bar at the top of the unit's shield symbol). A green bar indicates that the unit has lost from 0 to 33 percent of its Hit Points, a yellow bar shows that the unit has lost from 34 to 66 percent, and a red bar indicates that it has lost 67 percent or more.

Damage also affects the movement of a unit. The percentage of movement lost is equivalent to the percentage of Hit Points lost. Sea units can never have their movement reduced below two. The movement of air units is not affected by damage.

Corruption and Waste

As your civilization grows, you might notice that some of your cities are losing some of their Trade and Shields to corruption and waste. *Corruption* is Trade income lost to theft, embezzlement, and other illegal practices. *Waste* is Shield production lost to inefficiency. The farther a city is from your capital, the more corruption and waste it experiences. The amount of corruption and waste is also affected by the system of government you are using.

Corruption and waste, if left unchecked, can significantly slow the development of your civilization. Both corruption and waste can be reduced by 50 percent by building a Courthouse in the city experiencing the problem. The best solution, however, is to change your government to a more advanced form. The more advanced the government, the less the corruption and waste. Communism and Democracy eliminate this problem altogether.

Diplomats and Spies

Diplomats can establish embassies, investigate cities, steal technology, conduct industrial sabotage, instigate revolts in cities, and bribe enemy units. Spies can do everything diplomats can do plus poison water supplies, plant a nuclear device, and sabotage enemy units. Diplomats are eliminated from the game when they do anything other than bribe an enemy unit; spies always have a chance of carrying out such activities without being eliminated. Spies that are not caught (and thus eliminated) are returned to the nearest city in their civilization. Spies can investigate a city with 0% chance of being eliminated; however, the spy is charged 1/3 of a movement point (out of a total of 3 movement points at the beginning of a turn). Similarly, spies are not eliminated when they establish an embassy; instead, they are charged 1/3 of a movement point. Also, spies can choose which advance to steal or which city improvement to sabotage. Giving spies such a choice reduces their chance of success from 100% to something less than that. Random sabotage or technology theft always succeeds. If a diplomat or spy steals technology, conducts industrial sabotage, poisons a water supply, or incites a revolt in a city of a civilization with which you are not already at war, an international incident ensues. Such an incident may lead the attacked civilization and its allies to declare war; it also may lead to the fall of your government if you are operating as a Republic or Democracy. The international incident is completely independent of whether or not a spy escapes from the mission. Sabotaging enemy units reduces their strength. The first few (four?) sabotages have exponentially declining effects; subsequent sabotages have no effect. Thus units cannot be eliminated by sabotage. Poisoning water supplies reduces a city's population by one; however, the water supply of a city with a population of only one cannot be poisoned. Thus cities cannot be eliminated by poisoning the water supply. Planting a nuclear device does work against a city with an SDI defense; it is the only way to nuke such a city. As with any other espionage action, planting a nuclear device may result in the spy's capture. Diplomats and spies in a home city reduce the chance of an enemy successfully stealing technology from that city ("counterespionage"). Each diplomat in the city has a 20% chance of preventing technology theft, each non-veteran spy has a 40% chance, and each veteran spy has a 60% chance. Diplomats and spies are subject to deportation, even from civilizations with which they are not at war. Any military unit can attack and deport a diplomat or spy. If the diplomat or spy is from a civilization at peace with the attacker, the deportation will be successful if and only if the diplomat or spy is closer to one of the attacking unit's cities than to one of its own cities. The diplomat or spy is returned to his (diplomat) or her (spy) capital.

Disband

When a friendly unit becomes obsolete, costs too much to maintain, or causes unhappiness among your population, you might want to eliminate the unit. To eliminate a unit, order it to disband by holding down the shift key and pressing "D", or by selecting "Disband" from the Orders menu. Once disbanded, the unit is permanently removed from the game.

When a unit is disbanded inside a friendly city, half of the unit's production cost in Shields is added to the production of whatever unit, Improvement, or Wonder is currently under production in the city.

Fortify

Ground units can be ordered to fortify by pressing the "F" key, or by selecting "Fortify" from the Orders menu. The defensive value of fortified units is increased by 50 percent.

Fortress

Once your civilization has discovered Construction, Settlers and Engineers have the ability to construct fortresses. Fortresses can be utilized to defend city perimeters and to block key points of access from enemy armies. A properly manned fortress can provide an effective defense by doubling the defensive strength of all units stationed within. Unlike normal combat, units stacked within a fortress defend and are destroyed one at a time in battle, rather than being destroyed simultaneously. Fortresses themselves do not suffer damage in the attack.

Settlers and Engineers can construct fortresses by pressing the "F" key, or choosing the Build Fortress command from the Orders menu. Units within a fortress have their defensive strengths doubled. Under a Republic, units stationed inside fortresses built within three squares of their home city do not cause unhappiness.

Irrigation

Irrigation increases Food production in Grasslands, Plains, Deserts, and Hills. Only squares vertically or horizontally adjacent to water (Oceans or Rivers) or another irrigated square can be irrigated. After the discovery of Refrigeration, terrain squares can be double-irrigated to create farmland. Settlers and Engineers can be ordered to irrigate by pressing the "I" key, or by selecting "Build Irrigation" from the Orders menu.

Luxuries

The provision of Luxuries for your citizens is indicated by the goblet icons in the Resource Box of the City Display. Each two Luxuries makes one content citizen happy, or one unhappy citizen content. The amount of Luxuries a city produces is mainly determined by the percentage of Trade you have allocated to Luxuries. This can be adjusted using the "Change Tax Rate" command on the Kingdom menu. A city's Luxuries can also be increased by building certain City Improvements and Wonders of the World, and by converting citizens into Entertainers.

Mining

Mining increases the Shield production of Deserts and Mountains by one, and increases the Shield production of Hills by 3. Settlers and Engineers can be ordered to dig mines by pressing the "M" key, or by choosing the "Build Mine" command from the Orders menu.

Pillage

The terrain improvements built by other civilizations (irrigation, mines, roads, etc.) can be destroyed by moving a unit into the improved terrain square and ordering the unit to pillage. This reduces the production value of the land, and forces your enemy to re-develop the terrain.

Units can be ordered to pillage by holding down the shift key and pressing "P", or by choosing the "Pillage" command from the Orders menu. The unit must be ordered to pillage once for each of the terrain improvements you want to destroy. A fully developed terrain square (farmland with a railroad, for example) must be pillaged four times in order to remove all improvements.

Pollution

Pollution is mainly caused by excessive production of Shields in a city, but it may also be caused by large city populations (after discovery of Automobile), nuclear attacks, or meltdown of a Nuclear Plant. When a city poses a potential pollution problem, skulls on yellow triangles appear in the Information Box of the City Display. The more skulls a city generates, the higher the city's chance of polluting a terrain square within the city radius each turn. When world pollution reaches sufficiently critical levels, there is a chance that global warming can occur.

Pollution can be cleaned up by moving Settlers or Engineers into the polluted square and pressing the "P" key, or choosing the "Clean Up Pollution" command from the Orders menu. Pollution production of cities can be reduced through the construction of certain City Improvements, or by reducing the city's Shield production.

Railroads

Railroads can be built by Settlers and Engineers after the discovery of the Railroad. They are constructed by moving onto terrain containing a road, and pressing the "R" key, or by selecting the "Build Railroad" command from the Orders menu. Units moving along a railroad expend no movement points. Railroads increase Shield and Trade production by 50 percent (rounded down).

Roads

Roads can be built by Settlers and Engineers. Press the "R" key or select the "Build Road" command from the Orders menu. Roads can be built in any terrain except Oceans; but they cannot be built in a River square until the discovery of Bridge Building. Units moving along roads expend only one third of a movement point per square, regardless of terrain type. Roads also increase the amount of Trade produced by Deserts, Plains, and Grasslands.

Science

The amount of scientific research contributed by a city is indicated by the beaker icons shown in the Resource Chart of the City Display. At the start of each turn, the science output of each city is added to the research project currently in progress, eventually resulting in the discovery of a new Civilization Advance. The more beakers each city produces, the faster new Advances are discovered. The amount of science produced by your civilization is primarily determined by the amount of incoming Trade you have allocated to science. This percentage can be adjusted by selecting the "Change Tax Rate" command on the Kingdom menu.

The science output of individual cities and your civilization as a whole can also be increased by building certain City Improvements and Wonders of the World, or by converting citizens into Scientists.

Sentry

Units ordered to go on sentry duty appear as gray silhouettes. These units are removed from the movement queue, and remain on sentry duty until another unit moves into their sight range or until they are manually reactivated. Units on sentry duty inside a city are automatically loaded onto ships (up to the ship's unit carrying capacity) when the ship leaves the city.

Units are placed on sentry duty by pressing the "S" key, or by choosing the "Sentry" option on the Orders menu. Damaged units placed on sentry inside a city become active when they have been completely repaired.

Shields

The production of raw materials by your cities is represented by shield icons. Thus, raw materials are commonly referred to as "Shields". The number of Shields produced by each city is displayed in the Resource Chart of the City Display. Shields are used to support units. Each unit might, depending on government type and other circumstances, require that its home city expend one Shield per turn to support the unit. Excess Shields not used to support units are used for the production of City Improvements, Wonders of the World, and new units.

Shield production largely depends on the type of terrain surrounding the city. In most circumstances, Shield production of a city can be increased through the construction of certain Improvements and Wonders. The construction of mines also improves Shield production in certain types of terrain.

Specialists

The citizen icons displayed in the Population Roster of the City Display represent the city's work force. Each citizen added to the roster is automatically put to work developing one of the terrain squares within the city radius. In certain situations it may become necessary to remove a citizen from terrain production in order to perform a specific task. Citizens so removed are called specialists. There are three types of specialist, each of which increases one of the three components of Trade produced by a city. Entertainers increase Luxuries, Tax Men increase Taxes, and Scientists increase Science production.

To create a specialist, click on any production square in the City Map. The production icons disappear from the

square, and an Entertainer appears in the Population Roster. To create a Tax Man, click the Entertainer icon once. To create a Scientist, first create a Tax Man, then click the Tax Man icon once. Cities must be size five or larger to support Tax Men and Scientists.

Taxes

The Taxes collected by a city are indicated by gold coin icons in the Resource Chart of the City Display. Taxes are used primarily to pay the maintenance cost of City Improvements each turn. Any tax revenues not used for maintenance of Improvements are added to your treasury. The amount of Taxes generated by the city is primarily determined by the amount of incoming Trade you have allocated to Taxes. This can be adjusted by selecting the "Change Tax Rate" option from the Kingdom menu.

Tax revenues can also be increased through the construction of certain City Improvements and Wonders of the World, or by converting citizens into Tax Men.

Trade

Trade represents the exchange of goods and cash between cities and civilizations, the exchange of knowledge and ideas, and the recreational travel and activities of the citizens of your civilization. The total amount of Trade produced by each city is represented by double-arrow icons displayed in the Resource Chart of the City Display. Trade is then broken down into three separate components: Taxes, Luxuries, and Science. The amount of Trade allocated to each of these areas is controlled by selecting the "Change Tax Rate" option on the Kingdom menu.

Trade can be increased through the construction of certain City Improvements and Wonders of the World. It can also be increased through terrain improvements, and through the establishment of trade routes.

Trade Routes

Trade routes are established by moving a Caravan or Freight unit into a city at least ten squares from the unit's home city. You receive an immediate cash payment on the turn that the route is established. On each ensuing turn, each city receives a Trade bonus for as long as the trade route exists. The farther apart the two cities are, the more valuable the trade route. Trade routes established with cities of a rival civilization tend to be more profitable than those established between friendly cities. Each city may have up to three active trade routes at any time.

When using the Advanced Trade rules, the value of a trade route is also affected by the type of goods traded. When trading a commodity that is demanded by the destination city, the trade route is much more profitable.

Transforming Terrain

In addition to the changes to Terrain that can be made through irrigation and mining, Engineers can transform map squares into a radically different Terrain types by using the "Transform" command on the Orders menu. Terrain transformation is particularly useful if the Terrain surrounding a city doesn't produce sufficient resources.

See the Civlopedia entries for each Terrain type for the results of Engineer transformation.

Unhappiness Due to Civ Size

Once you have built a certain number of cities, your citizens start to worry about your ability to effectively govern your civilization. When this occurs, additional unhappy citizens appear in each city.

The number of cities you can build before causing additional unhappiness is based on a number of factors, including game difficulty level and government type. The number of cities is higher for more advanced governments and lower levels of difficulty.

Veteran Units

Units have a 50 percent chance of becoming Veterans each time they survive a combat encounter. Cities with a

Barracks Improvement automatically produce Veteran units, as do all cities under the influence of the Sun Tzu's War Academy Wonder. The attack and defense factors of Veteran units is increased by 50 percent. Veteran status increases a spy unit's probability of success in achieving any type of mission by 50%.