

Medieval Millennium Improvements

I. Overview

Medieval Millennium contains 35 potential city improvements, excluding only a handful from the base game. However, only three improvements have the exact same name (Barracks, Marketplace, and City Walls), and there are many differences in behavior. These range from enhanced prerequisites to entirely new concepts such as city specialists that will have a major impact on the game. Please see the separate sections of the documentation for the following key concepts: specialists, improvement-linked units, and mill power.

II. Specialists

In both the base game and Medieval Millennium, any city can designate a citizen as an Entertainer by not having that citizen work any tile in the city radius. This type of specialist essentially generates luxuries that increase happiness in that city. In cities of size 5 or larger, an Entertainer can be converted to one of two other specialist types: a Tax Collector, who generates gold for the national treasury, or a Scholar, who generates research toward the next advance.

Medieval Millennium also introduces two new categories of specialists, which generate either Health or Materials. Unlike the game's built-in specialists described above, these are created by building *improvements* within the city; they will then appear as *immobile units* in the roster of that city. They do not impact the tiles worked by that city or the built-in specialists described above in any way. Once you build the improvement, it is *removed* so that *only* the specialist unit remains; however, you will then have the opportunity to build the same improvement *again* in that city (although perhaps not immediately). This will cause specialists to be *upgraded* and/or eventually replaced by the final version of that city improvement.

First-level specialists will generate a small amount of Health or Materials, often at no cost; these are named after individuals. Second-level specialists generate a larger amount of Health or Materials but require upkeep (paid in gold) each turn, similar to a traditional city improvement. Most of these are named after small businesses.

The additional Health and Materials that are generated will not appear within the City Resources section of the city screen. They are added *directly* to the accumulated Health in the City Growth box, and to the accumulated Materials in the production box, at the beginning of each turn. To review the net effects of these specialists, as well as other events, upon the Health and Materials of all of your cities, press the [F1] key to view a table with this information.

The new city specialists are listed below and also described in the entries for the improvements with which they are associated: the Grist Mill §, Wood/Stone Craftsmen §, and Foundry §.

Improvement	Specialist	Level	Benefit	Upkeep	Notes
Grist Mill §	Miller	I	+1 Health		
Grist Mill §	Bakery	II	+1 Health	1 gold	The Bakery is added <i>alongside</i> the Miller but does not replace him. The final Grist Mill § improvement is also added <i>alongside</i> both specialists but does not replace them.
Wood/Stone Craftsmen §	Carpenter	I	+1 Materials		
Wood/Stone Craftsmen §	Stonecutter	I	+1 Materials		The Stonecutter is added <i>alongside</i> the Carpenter but does not replace him.
Wood/Stone Craftsmen §	Sawmill	II	+2 Materials	1 gold	The Sawmill upgrades and <i>replaces</i> the Carpenter but does not affect the Stonecutter.
Wood/Stone Craftsmen §	Mason	II	+2 Materials	1 gold	The Mason upgrades and <i>replaces</i> the Stonecutter but does not affect the Sawmill. The final Wood/Stone Craftsmen § improvement upgrades and <i>replaces</i> both the Sawmill and Mason.
Foundry §	Smith	I	+2 Materials	1 gold	
Foundry §	Forge	II	+4 Materials	2 gold	The Forge upgrades and <i>replaces</i> the Smith. The final Foundry § improvement upgrades and <i>replaces</i> the Forge.

II. Improvement-linked Units

Two other city improvements generate *linked* units that exist *outside* the city.

a. Fishing Fleet

When a city builds the Fishing Fleet improvement, this will automatically create an immobile Fishing Fleet unit on a sea tile adjacent to the city. However, this is not a city specialist unit like those related to the Grist Mill §, Wood/Stone Craftsmen §, and Foundry §. The new unit does not generate any direct benefit to the city and does not replace the city improvement. Instead, the external unit must *continue to exist* in order for the city improvement to function and provide its expected benefit (namely, allowing each Sea tile in the city radius to generate 2 Health instead of 1 Health). If the external Fishing Fleet unit is ever killed by an enemy, this will immediately destroy the linked Fishing Fleet improvement in the city, and you would need to build it all over again to acquire the benefit. As a result, defending the linked unit should always be a priority; or, perhaps you may find it unwise to build and defend a Fishing Fleet in a city that frequently has enemy ships lurking nearby.

b. Monastery and Monks

When a city builds a Monastery improvement, two events take place simultaneously. The first is that a land tile within the city radius will be converted to the terrain type of Monastery. The second is that an immobile Monks unit will be created on this tile.

Monastery terrain provides a small amount of Health, no Materials, and a substantial amount of Trade. Units may travel freely through a Monastery tile, and you may build a road or royal highway there if you wish. However, no other type of terrain improvement is possible, and it is not permitted to found a new city or build a castle on this site.

A Monks unit is not a city specialist unit like those related to the Grist Mill §, Wood/Stone Craftsmen §, and Foundry §. The new unit does not generate any direct benefit to the city and does not replace the city improvement. Instead, the external unit must *continue to exist* in order for the city improvement to function and provide its expected benefit (namely, providing a 50% increase in the research output of the city). If the external Monks unit is ever killed by an enemy, this will immediately destroy the linked Monastery improvement in the city, and you would need to build it all over again to acquire the benefit. As a result, defending the linked unit should always be a priority; or, perhaps you may find it unwise to build and defend a Monastery in a frontier city that is frequently under attack by your enemies.

III. Mill Power





In the base game, a Power/Hydro/Nuclear/Solar Plant was built *after* a Factory and increased its benefit (as well as impacting pollution levels). In Medieval Millennium, this relationship is inverted; the two replacements for these plants, Water Mill and Wind Mill, are *prerequisites* for building many higher-level and more powerful city specialists and/or improvements. At the time you construct them, they will not provide any noticeable direct benefit to your city, but will enable new construction options that were not previously possible. The details are provided in the documentation entries for these city improvements.







IV. City Size Limits








The two thresholds for growth limitations are at sizes 5 and 10, rather than at sizes 8 and 12 as in the base game. Specifically, a city requires a Market Town Charter to grow beyond size 5 and then a Free City Charter to grow beyond size 10.











V. Improvements Table


NOTE: Although the name of each improvement as it exists in the original base game is provided for reference, do not assume that the benefits are identical! Please review the "Benefit(s)" and "Special Notes" columns for the actual behavior of the improvement within Medieval Millennium.





	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
	Royal Palace  (original: Palace)	55 - 140 (varies)	0 -6 or more (see Special Notes)	Wood/Stone Craftsmanship	Makes this city your capital. Reduces or eliminates corruption and waste in the city, and (under most governments) decreases it in nearby cities. Under Merchant Republic, turns 1 content citizen in this city into a happy citizen. Please see "Special Notes" for cost and upkeep details.	<p>The first city that is founded by your nation receives a free Royal Palace. Only one city in your nation is permitted to contain this improvement at any point in time, which designates it as your capital city. Building this improvement in a new city will cause it to be removed from the city where it is currently located, and transfer your capital.</p> <p>The cost of a new Royal Palace starts at 50 Materials when the game begins and increases by 10 Materials every century (60 Materials beginning in A.D. 600, 70 Materials beginning in A.D. 700, etc.).</p> <p>Under two forms of government, there is a maintenance cost for this improvement. In Constitutional Monarchy, the Royal Palace has a maintenance cost of 6 gold per turn, and in Merchant Republic, the cost is based on the number of cities within your nation. Details can be found in the entry for that government type.</p> <p>Allows: Palatine Chapel wonder (in this city only)</p> <p>You may not build a Magistrate's Office in your capital city.</p>
	Barracks  (original: Barracks)	40	1 - 3 (varies)	(none)	Every human military land unit (i.e., excluding artillery and units with settler, diplomat, or trade abilities) that is produced in the city has an additional 50% chance of being a veteran unit. Any land unit spending an entire turn in the city is completely healed or repaired.	<p>When you acquire the Holy Land Crusades advance, all Barracks in your nation's cities are sold, and the gold is added to your treasury. The maintenance cost of any new Barracks that you build is increased to 2 gold per turn.</p> <p>Similarly, when you acquire the Primitive Cannons advance, all Barracks in your nation's cities are sold, and the gold is added to your treasury. The maintenance cost of any new Barracks that you build is increased to 3 gold per turn.</p> <p>Allows Springald unit to be built in this city.</p>





	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
	<p>Grist Mill §</p>  <p>(original: Granary)</p>	40	2	(none)	This improvement has special behavior linked to specialist units. Please see "Special Notes" for details.	<p>This improvement can be constructed multiple times within a city. On the first two construction cycles, it produces a specialist instead of the actual improvement.</p> <p><u>First Construction</u> <i>Prerequisites:</i> none <i>Benefits:</i> Provides a Miller specialist unit. This specialist adds 1 Health to the city every turn.</p> <p><u>Second Construction</u> <i>Prerequisites:</i> City has a Miller specialist unit; City size is at least 3; City has a Water Mill or a Wind Mill. <i>Benefits:</i> Provides a Bakery specialist unit (alongside the existing Miller). This specialist adds 1 additional Health to the city every turn, but deducts 1 gold from your treasury for maintenance.</p> <p><u>Third Construction</u> <i>Prerequisites:</i> City has a Bakery specialist unit; City size is at least 10 (size 8 if your nation has acquired the Enclosure advance), or city has a Royal Palace, or your nation has the Domesday Book wonder; City has a Water Mill or a Wind Mill. <i>Benefits:</i> The large Grist Mill city improvement is added (alongside the existing Miller and Bakery). With this improvement in place, after the city has achieved a full complement of Health and increases in size, the Health accumulation resets to 50% full rather than empty. <i>Allows:</i> Enclosed Fields improvement</p>
	<p>Basilica</p>  <p>(original: Temple)</p>	80	1	Catholic Christianity	Turns 1 unhappy citizen into a content citizen. The discovery of Gregorian Chant will increase this by 1, thereafter affecting 2 unhappy citizens.	
	<p>Marketplace</p>  <p>(original: Marketplace)</p>	40	1	(none)	Increases tax and luxury output by 50% of the base value (acts in concert with similar benefit available from Textile Mill and Bank).	<p>Additional benefit: Building a Marketplace in your capital city will immediately grant that city a free Market Town Charter (if it does not have one already). However, this also means you will begin paying the upkeep cost of that improvement.</p> <p>Allows: Textile Mill; Bank; Trade Fair Circuit</p>









	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
	Monastery §  (original: Library)	80 - 120 (varies)	0	Monasticism	Increases research output by 50% of the base value (acts in concert with similar benefit available from Cathedral School and University). The cost of this improvement will increase when certain wonders are constructed.	<p>When a city completes a Monastery, one of the tiles in the city radius will be converted to the Monastery terrain type and will be populated by an immobile Monks unit. If this unit is ever killed in battle, the Monastery improvement in the city will automatically be removed! You would then need to reconstruct the improvement to replace the Monks and regain its benefit.</p> <p>Allows: Hospital; School of Medicine wonder; Magnificent Cluniac Abbey wonder; Cistercian Order wonder. Also allows Monastic Knight unit to be built in this city.</p> <p>The cost of this improvement begins at 80 Materials. Construction of the Magnificent Cluniac Abbey wonder, by any tribe, will increase this by 20. Construction of the Cistercian Order wonder, by any tribe, will increase this by 20 again.</p>
	Magistrate's Office  (original: Courthouse)	60	1	Manorialism	Decreases corruption by 50%. Under Merchant Republic, 1 content citizen becomes happy.	Additional prerequisites: City does not have a Royal Palace; City has a Market Town Charter.
	City Walls  (original: City Walls)	100	1	Siege Warfare	All units within the city receive a 100% defensive bonus (total of 2x) against attacks by enemy land units and small projectiles.	Allows: Bastion Fortress
	Market Town Charter  (original: Aqueduct)	60	1	Trade	Allows city to increase beyond size 5.	<p>Additional prerequisite: City size is at least 4.</p> <p>Allows: Magistrate's Office; Textile Mill; Free City Charter; Trade Fair Circuit; Harbor Crane</p> <p>NOTE: Your capital city will automatically receive a free Market Town Charter when it constructs a Marketplace, regardless of its size and regardless of whether your nation has knowledge of Trade.</p>











	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
  (original: Bank)	Textile Mill	120	3	Cloth Mill / Fulling	Increases tax and luxury output by 50% of the base value (acts in concert with similar benefit available from Marketplace and Bank).	Additional prerequisites: City has a Marketplace; City has a Market Town Charter; City has a Water Mill or Wind Mill.
  (original: Cathedral)	Romanesque Cathedral	160	2	Romanesque Architecture	Turns 4 unhappy citizens into content citizens. The discovery of Feudalism will decrease this by 1, thereafter affecting 3 unhappy citizens.	Additional prerequisite: City does not have a Gothic Cathedral; City does not have the Iconic Romanesque Cathedral wonder; City does not have the Opulent Romanesque Cathedral wonder. Allows: Cathedral School You may not build the Iconic Romanesque Cathedral wonder or the Opulent Romanesque Cathedral wonder in a city which already has a Romanesque Cathedral. (However, constructing the Iconic Romanesque Cathedral will provide the benefit of a Romanesque Cathedral improvement in every city.)
  (original: University)	Cathedral School	140	2	Trivium/Quadrivium	Increases research output by 50% of the base value (acts in concert with similar benefit available from Monastery & and University).	Additional prerequisite: City has a Romanesque Cathedral or a Gothic Cathedral. Allows: University; Iconic University wonder
  (original: Mass Transit)	Sewer Conduits	120	2	Sanitation	Reduces the chance of a major plague strike in the city by 20%. Eliminates the unsanitary conditions (pollution) caused by city population, resulting in a lower chance of a minor plague outbreak nearby.	Additional prerequisites: City has a Free City Charter; City is adjacent to a river tile or to a Sea tile.
  (original: Colosseum)	Gothic Cathedral	200	3	Gothic Architecture	Turns 3 unhappy citizens into content citizens. The discovery of Stained Glass will increase this by 1, thereafter affecting 4 unhappy citizens.	Allows: Cathedral School You may not build a Romanesque Cathedral, the Iconic Romanesque Cathedral wonder, the Opulent Romanesque Cathedral wonder, or the Magnificent Cluniac Abbey in a city which already has a Gothic Cathedral. (Once an example of more modern Gothic architecture has appeared in a city, the populace will not support beginning a project in the older Romanesque style.) You also may not build the Iconic Gothic Cathedral wonder or the Majestic Gothic Cathedral wonder in a city which already has a Gothic Cathedral. (However, constructing one of those wonders will automatically provide a free Gothic Cathedral improvement in that city.)











	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
	Wood/Stone Craftsmen § (original: Factory)	40 - 60 (varies)	6	Wood/Stone Craftsmanship	This improvement has special behavior linked to specialist units. Please see "Special Notes" for details. The cost of this improvement begins at 40 Materials, increases to 50 in A.D. 800, and increases to 60 in A.D. 1200.	<p>This improvement can be constructed multiple times within a city. On the first four construction cycles, it produces a specialist instead of the actual improvement.</p> <p>First Construction <i>Prerequisites:</i> "Wood/Stone Craftsmanship" advance has been discovered or acquired. <i>Benefits:</i> Provides a Carpenter specialist unit. This specialist adds 1 unit of Materials to the city every turn.</p> <p>Second Construction <i>Prerequisites:</i> City has a Carpenter specialist unit; City size is at least 2. <i>Benefits:</i> Provides a Stonecutter specialist unit (alongside the existing Carpenter). This specialist adds 1 unit of Materials to the city every turn.</p> <p>Third Construction <i>Prerequisites:</i> City has Carpenter and Stonecutter specialist units; City size is at least 4; City has a Water Mill or Wind Mill. <i>Benefits:</i> Provides a Sawmill specialist unit which replaces the Carpenter specialist unit (the Stonecutter is not affected). This upgraded specialist adds 2 Materials to the city every turn, but deducts 1 gold from your treasury for maintenance.</p> <p>Fourth Construction <i>Prerequisites:</i> City has Sawmill and Stonecutter specialist units; City size is at least 6; City has a Water Mill or a Wind Mill. <i>Benefits:</i> Provides a Mason specialist unit which replaces the Stonecutter specialist unit (the Sawmill is not affected). This upgraded specialist adds 2 Materials to the city every turn, but deducts 1 gold from your treasury for maintenance.</p> <p>Fifth Construction <i>Prerequisites:</i> "Guilds" advance has been discovered or acquired; City has Sawmill and Mason specialist units; City size is at least 8; City has a Water Mill or a Wind Mill. <i>Benefits:</i> The large Wood/Stone Craftsmen city improvement replaces both the Sawmill and Mason specialist units. With this improvement in place, the quantity of Materials generated is increased by 100% of the base value (acts in concert with related benefit available from Foundry improvement; provides only a 50% benefit if Foundry has already been constructed). <i>Allows:</i> Guildhall</p>



	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
	<p>Foundry §</p>  <p>(original: Manufacturing Plant)</p>	60 - 100 (varies)	6	Metal Working	<p>This improvement has special behavior linked to specialist units. Please see "Special Notes" for details. The cost of this improvement begins at 60 Materials and gradually increases to 100 as new metal-working technologies are discovered by any tribe.</p>	<p>This improvement can be constructed multiple times within a city. On the first two construction cycles, it produces a specialist instead of the actual improvement.</p> <p>First Construction <i>Prerequisites:</i> "Metal Working" advance has been discovered or acquired. <i>Benefits:</i> Provides a Smith specialist unit. This specialist adds 2 Materials to the city every turn, but deducts 1 gold from your treasury for maintenance. <i>Allows</i> construction of primitive and small gunpowder artillery (Ribauldequin, Pot-de-fer, Fowler, Serpentine, and Falconet) in this city, once the prerequisite advances for each of those units are acquired.</p> <p>Second Construction <i>Prerequisites:</i> "Catalan Forges" advance has been discovered or acquired; City has a Smith specialist unit; City size is at least 6; City has a Water Mill or a Wind Mill. <i>Benefits:</i> Provides a Forge specialist unit which replaces the Smith specialist unit. This upgraded specialist adds 4 Materials to the city every turn, but deducts 2 gold from your treasury for maintenance. <i>Allows</i> construction of medium gunpowder artillery (Bombard, Demi-culverin, and Saker) in this city, in addition to the small ones permitted by the Smith, once the prerequisite advances for each of those units are acquired.</p> <p>Third Construction <i>Prerequisites:</i> "Blast Furnace" advance has been discovered or acquired; City has a Forge specialist unit; City size is at least 8; City has a Water Mill or a Wind Mill. <i>Benefits:</i> The large Foundry city improvement replaces the Forge specialist unit. With this improvement in place, the quantity of Materials generated is increased by 100% of the base value (acts in concert with related benefit available from Wood/Stone Craftsmen improvement; provides only an additional 25% benefit if Wood/Stone Craftsmen has already been constructed). <i>Allows</i> construction of all gunpowder artillery, including large cannons (Basilisk, Culverin, and Field Culverin) in this city, once the prerequisite advances for each of those units are acquired.</p> <p>The cost of this improvement begins at 60 Materials. It will increase to 70 when Catalan Forges are discovered by any tribe, to 80 when Wolf Furnace is discovered by any tribe, and finally to 100 when Blast Furnace is discovered by any tribe.</p>
	<p>Hospital</p>  <p>(original: Recycling Center)</p>	100	2 (see "Special Notes")	Military Orders	<p>Significantly reduces the impact of a major plague strike upon the city, and significantly reduces the likelihood of a minor plague outbreak on nearby tiles. Please see "Special Notes" for details.</p>	<p>Reduces the impact of a major plague strike upon the city by 60%, resulting in a much lower chance of units being lost and a smaller population decrease. If a plague strikes and the Hospital serves its purpose, an operational surcharge will be calculated and deducted from your treasury. The amount of the surcharge is calculated based on the severity of the plague and the number of citizens saved.</p> <p>Also increases by 200% (total of 3x) the quantity of Materials that can be generated in the city before the unsanitary conditions caused by extensive industry (pollution) lead to a minor plague outbreak on a tile within the city radius.</p> <p>Additional prerequisites: City has a Monastery or a Free City Charter.</p>

	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
	<div>Wind Mill</div> <div></div> <div>(original: Power Plant)</div>	60	0	Vertical Wind Mills	Provides "mill power" to the city, which is a prerequisite for a number of city specialists and improvements. Please see "Special Notes" for details.	<p>Additional prerequisite: City does not have a Water Mill.</p> <p>Benefits: "Mill power" provides no immediate and direct benefit to the output of a city, but is required in order to construct any of the following specialists or improvements:</p> <ul style="list-style-type: none">• Bakery specialist, represented in the list of build options as Grist Mill. This advanced (level two) specialist is added alongside the basic Miller specialist. The Miller can rely on an animal- or human-powered grindstone, if necessary, but the amount of grain required by a Bakery can only be provided if there is access to mill power. (The final upgrade, to the large Grist Mill improvement, requires mill power as well.)• Textile Mill improvement.• Sawmill specialist, represented in the list of build options as Wood/Stone Craftsmen. This advanced (level two) specialist replaces the basic Carpenter specialist, which is available without mill power. The second construction of Wood/Stone Craftsmen, which generates a Stonecutter specialist, is available without mill power as well. But for the third construction of Wood/Stone Craftsmen, which will upgrade the Carpenter to a Sawmill, this and all subsequent levels require mill power.• Forge specialist, represented in the list of build options as Foundry. This advanced (level two) specialist replaces the basic Smith specialist. The Smith can rely on a hand-powered bellows and furnace, but a larger Forge requires access to mill power. (The final upgrade, to the Foundry improvement, requires mill power as well.)
	<div>Water Mill</div> <div></div> <div>(original: Hydro Plant)</div>	80	0	<i>SPECIAL</i>	Provides "mill power" to the city, which is a prerequisite for a number of city specialists and improvements. Please see "Special Notes" for details. In addition, increases the quantity of Materials that can be generated in the city before pollution appears (which a Wind Mill does not).	<p>Prerequisites: City is adjacent to a river tile or to a Sea consisting of at least 21 tiles.</p> <p>Benefits: "Mill power" provides no immediate and direct benefit to the output of a city, but is required in order to construct any of the following specialists or improvements:</p> <ul style="list-style-type: none">• Bakery specialist, represented in the list of build options as Grist Mill. This advanced (level two) specialist is added alongside the basic Miller specialist. The Miller can rely on an animal- or human-powered grindstone, if necessary, but the amount of grain required by a Bakery can only be provided if there is access to mill power. (The final upgrade, to the large Grist Mill improvement, requires mill power as well.)• Textile Mill improvement.• Sawmill specialist, represented in the list of build options as Wood/Stone Craftsmen. This advanced (level two) specialist replaces the basic Carpenter specialist, which is available without mill power. The second construction of Wood/Stone Craftsmen, which generates a Stonecutter specialist, is available without mill power as well. But for the third construction of Wood/Stone Craftsmen, which will upgrade the Carpenter to a Sawmill, this and all subsequent levels require mill power.• Forge specialist, represented in the list of build options as Foundry. This advanced (level two) specialist replaces the basic Smith specialist. The Smith can rely on a hand-powered bellows and furnace, but a larger Forge requires access to mill power. (The final upgrade, to the Foundry improvement, requires mill power as well.)

	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
  <p>(original: Stock Exchange)</p>	Bank	200	5	Double-entry Bookkeeping	Increases tax and luxury output by 50% of the base value (acts in concert with similar benefit available from Marketplace and Textile Mill).	Additional prerequisites: City has a Marketplace; City has a Free City Charter.
  <p>(original: Sewer System)</p>	Free City Charter	100	3	Enlightened Monarchy	Allows city to increase beyond size 10.	<p>Additional prerequisites: City has a Market Town Charter; Current form of government is Enlightened Monarchy, Constitutional Monarchy, or Merchant Republic; City size is at least 8.</p> <p>NOTE: Your capital city is permitted to begin production of a Free City Charter at any point in the game, even without acquiring the Enlightened Monarchy advance and regardless of your current form of government, once it reaches a certain size. Under one of the three governments listed above, construction of this improvement can begin at size 8; otherwise, it requires the city to be size 10.</p> <p>Allows: Sewer Conduits; Hospital; Bank; Guildhall</p>
  <p>(original: Supermarket)</p>	Enclosed Fields	120	2	Enclosure	All tiles in the city's radius with the enclosed fields upgrade (irrigated twice) produce 50% more Health.	Additional prerequisite: City has a Grist Mill improvement.
  <p>(original: n/a)</p>	Trade Fair Circuit	100	0	Guilds	Provides a fixed amount of gold income per turn, depending on your current form of government. Please click "Special Notes" for details.	<p>Additional prerequisites: City has a Marketplace; City has a Market Town Charter; City is not adjacent to a Sea consisting of at least 21 tiles; Total number of Sea tiles within the city radius is 4 or fewer. In addition, you can only build a maximum of 6 Trade Fair Circuits in your nation.</p> <p>The gold income that each Trade Fair Circuit provides every turn varies by your form of government, as follows:</p> <p>Interregnum: 8 Tribal Monarchy: 0 Primitive Monarchy: 8 Feudal Monarchy: 4 Enlightened Monarchy: 4 Constitutional Monarchy: 4 Merchant Republic: 1</p>

	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
  <p>(original: Research Lab)</p>	University	200	5	Universities	Increases research output by 50% of the base value (acts in concert with similar benefit available from Monastery § and Cathedral School).	<p>Additional prerequisites: City size is at least 8; City has a Cathedral School.</p> <p>You may not build the Iconic University wonder in a city which already has a University. (However, constructing this wonder will then provide the benefit of a University improvement in every city.)</p>
  <p>(original: SAM Missile Battery)</p>	Bastion Fortress	140	2	Corned Gunpowder	All units within the city receive a 50% defensive bonus (total of 1.5x) against attacks by large enemy projectiles fired by artillery units. Prevents City Walls from being destroyed by this type of artillery attack.	Additional prerequisite: City has City Walls.
  <p>(original: Solar Plant)</p>	Guildhall	140	3	Guilds	Completely eliminates the possibility of a plague outbreak near the city due to the quantity of Materials generated. Slightly reduces the possibility of this due to the number of citizens.	Additional prerequisites: City has Wood/Stone Craftsmen improvement; City has a Free City Charter.
  <p>(original: Harbor)</p>	Fishing Fleet §	80	1	<i>SPECIAL</i>	All Sea tiles within the city's radius produce 1 additional unit of Health.	<p>Prerequisites: Either the "Carvel Shipbuilding" or the "Clinker Shipbuilding" advance has been discovered or acquired; City is adjacent to a Sea tile.</p> <p>When a city completes a Fishing Fleet, one of the Sea tiles adjacent to the city will be populated by an immobile Fishing Fleet unit. If this unit is ever killed in battle, the Fishing Fleet improvement in the city will automatically be removed! You would then need to reconstruct the improvement to replace the Fishing Fleet and regain its benefit.</p>
  <p>(original: Offshore Platform)</p>	Harbor Crane	120	4	Harbor Crane	All Sea tiles within the city's radius produce 1 unit of Materials.	<p>Additional prerequisites: City has a Market Town Charter; City is adjacent to a Sea consisting of at least 21 tiles.</p> <p>Allows: Hanseatic League Capital wonder</p>

	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
	Chivalric Tournament  (original: Police Station)	100	4	Constitutional Monarchy	Decreases unhappiness caused by troops away from city by 1, thereby eliminating this source of unhappiness under Constitutional Monarchy and reducing the impact per unit from 2 to 1 under Merchant Republic.	Has no effect under governments that do not experience unhappiness as a result of campaigning troops (Tribal, Primitive, Feudal, or Enlightened Monarchy).
	Shipyard  (original: Port Facility)	80	2	<i>SPECIAL</i>	Every naval unit that is produced in the city has an additional 50% chance of being a veteran unit. Any naval unit spending an entire turn in the city is completely repaired.	Prerequisites: Either the "Carvel Shipbuilding" or the "Clinker Shipbuilding" advance has been discovered or acquired; City is adjacent to a Sea consisting of at least 21 tiles.
	Atlantic Fleet: Crew  (original: SS Structural)	60	0	Age of Discovery	Crew members are a vital component of your Atlantic Fleet. A minimum of 15 crew members are required in order to cast off, but more may be needed if you build a larger fleet.	Additional prerequisite: Construction of the Atlantic Fleet can only begin after the Sea Route to India wonder is completed by any nation.
	Atlantic Fleet: Sails  (original: SS Component)	90	0	Age of Discovery	Sails consist of Canvas and Rope. At least one of each is required in order to cast off, but more will allow your fleet to sail more quickly and reach its destination sooner.	Additional prerequisite: Construction of the Atlantic Fleet can only begin after the Sea Route to India wonder is completed by any nation.
	Atlantic Fleet: Ship/Cargo  (original: SS Module)	120	0	Age of Discovery	The Ship component is self-explanatory, and Cargo consists of Food and Water. At least one of each is required in order to cast off, but a larger fleet will earn you greater renown.	Additional prerequisites: Construction of the Atlantic Fleet can only begin after the Sea Route to India wonder is completed by any nation; City is adjacent to a Sea consisting of at least 21 tiles.

	Improvement	Cost (Materials)	Upkeep (Gold)	Prerequisite Tech	Benefit(s)	Special Notes
	[Scutage]  (original: (Capitalization))	n/a	0	Holy Land Crusades	Converts Materials production directly into tax revenue.	