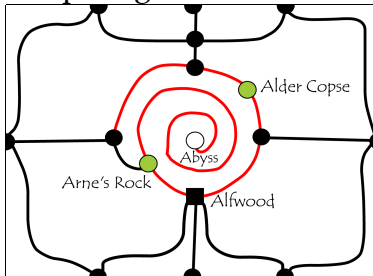


DWARVEN RAILS

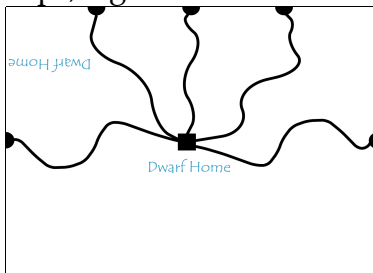
A game of railroad expansion, mining and timing for 1-4 players

COMPONENTS

- 12 mine maps, e.g.



- 4 base maps, e.g.



- 24 player pawns in 4 colors
 - 8 starting pawns _____
 - 8 tall "+1" pawns _____
 - 8 translucent "+2" pawns _____
- 80 acrylic mining cubes in 5 colors:
 - 15 clear (diamond), 15 red (ruby), 15 green (emerald), 20 yellow (gold), 15 blue (silver)
- 50 mining winks in 5 colors representing 4 cubes each: 10 white (diamond), 10 red (ruby), 10 green (emerald), 10 yellow (gold), 10 blue (silver)
- 10 black winks (depletion)
- 80 wood player cubes in 4 colors
- 96 cards:
 - 39 mines, each naming a map location
 - 18 events (including 5 snowstorms)
 - 16 transports (Troll, Giant or Dragon)
 - 16 passenger routes (so labeled)



- 12 personnel (Elf, Dwarf)

- 2 six-sided dice
- 1 Market Chart
- 1 train engine start token

Track your income and expenses by filling out a personal Accounts chart, for which you need a writing implement. This is the easiest, most private way to track money in this game, but if you prefer, provide some gaming chips.

SETTING UP THE GAME

1. Follow the directions for setting up the base game on the back of the Market Chart.
2. Place the Market Chart nearby. Place an ice cube in each box labeled **START**.

OVERVIEW

The northern wastes, unrelieved in their monotony by nought but the occasional promontory, rift or settlement. Yet hidden below the snow and ice are fabled wealth for any hardy enough to seek them out. Only the tough and sturdy dwarves respond to the challenge, delving into frozen mines and building their railroads to carry away precious gems and metals.

In *Dwarven Rails* players build tracks between cities (represented by squares) and mines (circles). Each mine corresponds to a single mine card that produces a single type of good, e.g. diamonds, rubies, emeralds. Players build track using their surveyors, claim mines using their agents and operate the mines to produce goods. When their track connects the mine to their base they may ship goods home via transports to earn income. They may also construct passenger routes to gain income. Along the way they hire additional surveyors, agents and transports to increase efficiency.

GOAL OF THE GAME

The game ends at the end of any game turn in which a player reaches 700 Copper (Cu). The player having the most Cu wins. Should there be a tie, the player having the most value on mines at current prices wins.

Player money is not public initially, but any player reaching 400 Cu must immediately announce the fact. The Cu totals of these players are public thereafter.

SEQUENCE OF PLAY

Each game turn consists of the following phases.

Play phases 1 and 2 in clockwise order beginning with the player holding the start token. Each player performs a phase before continuing to the next player.

1. Survey and Prospect.

2. Resolve Conflicts/Take Ownership.

Players conduct all of the steps of phase 3 in order, but simultaneously:

3. Operations:

- a. Resolve Consecutive Builds.
- b. Pay Prospect and Survey Expenses.
- c. Pay Operating Expenses.
- d. Operate Mines.
- e. Make Deals.
- f. Clear Snow.
- g. Collect Passenger Revenue.

Play phase 4 in anti-clockwise order starting with the player right of the start token:

4. Ship Goods.

Players resolve phase 5 together:

5. Bookkeeping

- a. Adjust Market Prices.
- b. Restore Cards.
- c. Recover Personnel.
- d. Pass Start Token.

PLAYING THE GAME

1. Survey and Prospect

Each player begins the game with two pawns, one representing an Elf Surveyor and one a Dwarf Agent. Each has a rating of 0.

During the game each player constructs a network of tracks. Initially the network consists of just the city on the player's base map.

A player may construct a track on a line between two sites represented by a circle or square. To make it a track, the line must be adjacent to the player's network.

Surveying initiates track construction.

- a. Place an Elf Surveyor pawn on an unowned track segment.

Multiple Surveyors. If expecting conflict, a player may place more than one surveyor pawn on the same track segment.

Consecutive Builds. A player may survey a track that is not connected to their network, but is one segment beyond so long as another Surveyor is surveying the track that connects this track to the player's network on the same turn. A consecutive build requires a successful die roll in Phase 3a.

Surveying Restrictions:

- You may not build both segments of a parallel track. Parallel track refers to a pair of tracks that both start and end at the same location, for example the two tracks that connect Gold Mere to Glimmerdale.
- You may not initiate a build that serves no purpose except to block another player.
- If two players place surveyors on different segments that, if built, would render each useless, either player can call for a dispute roll between surveyors. Only the winning surveyor may build their track.
- You may not attempt a consecutive build that extends from a consecutive build.

There is no requirement to use all of your surveyors on a turn.

Prospecting initiates claiming mines, personnel or passenger routes.

a. **Place** a Dwarf Agent pawn on a mine or personnel upcard or on a passenger card.

Note: You need not own track connected to a mine to prospect it.

Multiple Prospectors. If expecting conflict, you may place more than one pawn on the same card.

Prospecting the Deck. You may place pawns atop the deck (permitting a card draw in Phase 3). **Note:** Should the deck's face down cards be exhausted, reshuffle its face up cards to constitute a new deck.

There is no requirement to use all your prospectors on a turn.

Passenger Routes.

Passenger Routes represent carrying passengers rather than freight to various locations. They provide a flat, but relatively reliable sources of income.

Prospect a Passenger Route by placing an agent on a passenger card that corresponds to a location for which you have track that connects it with your base.

Pay **5 Cu** to claim a passenger card. When you do so, place it face up in your area.

Other player passenger cards. You may prospect a passenger card held by another player. Prospect the card as usual, but instead of taking it to claim it, place one of your cubes on it. There is no limit on the number of players can claim a passenger card.

Should multiple players prospect an unowned passenger card on the same turn, all claim it, but

only one takes it. Determine the claimant using the Dispute rules below. Those who does not take the card still benefit from it, but must place a cube on it.

See below for passenger route income.

Personnel.

Each player has two pawns of the starting type, two of the +1 type and two of the +2 type.

Prospecting Restrictions:

- You may not prospect to exceed a combination of **six agents plus surveyors**, total.
- You may not prospect agents or surveyors for which you have no available pawns. For example, if you already have two +2 Elf Surveyors you may not prospect any more +2 personnel of any type.
- You may not hold more than **four transports**. If purchasing beyond the fourth transport you must, upon conclusion of the transaction, release as upcards enough other transports so as to return to four.

2. Resolve Disputes/Take Ownership

A Dispute occurs when more than one player prospect the same **mine, track segment, or unowned passenger route card**.

Mine, Track and Passenger Route Disputes.

Roll two dice for each of your pawns in a dispute and add to the result the rating of the individual agent or surveyor. **Agents having track to a disputed mine also receive a +3 bonus.** The player having the highest result takes ownership. Should a player not wish or not be able to pay for an item, the **second highest claimant** then has the right to do so, and so on. A **tied result** means that no one can take ownership on this turn.

Personnel and Transport Disputes. When there is a conflict over an **agent, surveyor or**

transport, resolve the conflict via a many-around auction of Cu. The participating player earliest in the turn order makes the first bid, the minimum being the **red number** on the card. Each bid in clockwise order must exceed the previous player's bid or drop out. You may not bid more Cu than you have.



The last remaining player deducts the amount bid on their Accounts chart (under Prospect) and takes the card.

Dispute Order. Resolve all Personnel and Transport Disputes after other types of disputes. If any player cares about the order, resolve all Personnel Disputes involving the start player first and then continue around the table. If the current player is involved in multiple disputes they decide their order of resolution.

3a. Resolve Consecutive Builds.

Each player rolls a die for each consecutive build attempt. The attempt works on a result of 4-6. A failed consecutive build does not incur any Cu cost.

3b. Pay Prospect and Survey Expenses.

Players record prospecting (including auctions) and surveying costs in the Prospect and Survey columns of the Accounts chart, respectively, per the following schedule:

Activity	Cu Cost
Build black track segment	2
Build red track segment	3
Claim Mine	2
Claim Passenger Route	5

If **multiple players have pawns atop the deck**, each draws one card per pawn in player order. As events may affect the Agent, when there are multiple pawns for a given player, the player must designate each card for a particular pawn

prior to drawing it.

Place aside any **snowstorm** that appears at this time. Apply it during Phase 5b (Restore Cards).

Constructing Track. When you successfully survey track, replace your surveyor pawn with one of your player cubes to indicate ownership.

Cube Limit. You can only build track segments up to the limit of your player cubes. If you run out of cubes you may pick up a cube from elsewhere in your network and place it on the newly-surveyed location.

Claiming Mine, Personnel and Passenger Cards. When you successfully claim a mine, personnel, transport or passenger route card, place it face up in your area, except for passenger route cards already claimed by another player. In the latter case record the fact of the route by placing one of your player cubes on the other player's passenger card. **Hint:** Associate each newly-acquired agent and surveyor with one of your pawns. Store such pawns on their corresponding cards when not in use.

You are not required to purchase an item you have prospected or surveyed and can thereby save these costs instead. However, as mentioned above, if the item was disputed, the next highest finisher can claim it in that case.

3c. Pay Operating Expenses

Each player pays 1 Cu in the Operate column for each mine he plans to operate in the next phase.

3d. Operate Mines


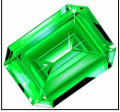
Each player makes a single die roll for the phase, consulting the number to the right of the result on each of their operating mine

cards to find out the amount each mine produces. Indicate this by adding supply cubes of the mine card's color in the number indicated to the mine card. **Hint:** where mine output is high use same color winks to supplement the cubes. Each wink represents 4 cubes.

Mine Depletion. An "X" means that the mine depletes. You may no longer operate such a mine unless you re-acquire it from the deck. When such a mine no longer has any goods on it, place the card face up on the bottom of the deck. **Hint:** place a black depletion wink on such a mine, turn it over or move it apart from others to indicate its status.

When **operating a mine on the turn of acquisition**, the player may alter the die result by 1 for each such mine (the alteration may differ from mine to mine). Alternatively, a player may change a 1 result to a 6 or vice versa.

Example: A player decides to operate both the Abyss and the Freetown mines (see below), paying 1 Cu for each and rolls a die with a result of 5. On Abyss, a 5 indicates 4, so the player places 4 clear cubes on the

<p>ABYSS</p> <p>DIAMOND</p>  <p>1-0 2-1 3-2 4-3 5-4 6-X</p>	<p>FREETOWN</p> <p>EMERALD</p>  <p>1-2 2-4 3-1 4-3 5-X 6-0</p>
<p>Abyss Diamond Mine</p> <p>1 - 0 2 - 1 3 - 2 4 - 3 5 - 4 6 - X</p>	<p>Freetown Emerald Mine</p> <p>1 - 2 2 - 4 3 - 1 4 - 3 5 - X 6 - 0</p>

Abyss card. The 5 result also applies to the Freetown mine, and would mean that this mine depletes, but

since they acquired the mine just this turn, the player alters the roll for this card by 1 so that it counts as a 4, thus producing 3 green cubes.

3e. Make Deals

Players may sell or trade track, mines and/or goods. They may pay to have others ship their goods so long as the other player has connecting track. They may clear snow (see next) from another player's track if they have the owner's permission and their track connects. If any Cu change hands, record this in the Deals column. You may not alienate personnel or transports.

3f. Clear Snow

If a **snowstorm** currently applies a **player may not ship goods over a red track** segment unless they clear the snow by allocating a transport card to it for the turn. Each transport card can clear one or more segments as explained on the card. On each turn a transport may clear snow or ship goods, but not both.

Passenger Routes. A current snowstorm also prevents a **passenger route** from operating if any segment in the route is **red**; you collect **no income for the route unless you clear all track between the route location and your base.**

3g. Collect Passenger Revenue

Passenger Routes earnings per turn depend on the number of connected locations in your network.

First Location

From the first turn that you connect to your first Passenger Route location other than the base, you earn 5 Cu per turn, provided the route between the location and the base is free of snow.

Second Location

Starting with the turn that you connect a second Passenger route location to your network, you earn 20 Cu per turn, assuming no disruption by snow.

Additional Locations

For each additional location you add to your network, earn an additional 10 Cu per turn. This schedule summarizes passenger income:

No. Connected	Income in Cu
1	5
2	20
3	30
4	40
...	...

4. Ship Goods

To earn money for them, a player must ship goods from mines back to their base city. Each transport may ship the number of goods indicated by transport's number divided by the difficulty of this route.

Route Difficulty Schedule:

- Entirely Black Track: 2
- At least one Red Track: 3

Multiple Transports. Each transport ships from a single mine to a single destination. You may combine multiple transports that add their numbers together before dividing.

Earnings. When you ship goods to your base city, calculate earnings as follows:

Number of Goods *multiplied by*

Current Market Value of that type of Good

Record this amount in the Shipped column of your Accounts chart and place the goods cubes at the bottom of the Market chart for later processing.

Trans-shipment. A transport may **ship from one mine to another**, including, with agreement of the other player, to or from a mine card that belongs to another, so long as both mines are of the same type and there is contiguous track to use. If both mines are at the same location, the difficulty number is 1.

5a. Adjust Market Prices

Follow the instructions, in order, at the bottom of the Market chart to update the Market status. Then return all shipped cubes to the supply.

5b. Restore Cards

Deck Exhausted. Should the deck's face down cards be **exhausted**, reshuffle its face up cards to constitute a new deck.

Add Upcards. If there are **fewer than six** upcards, draw the number needed to reach six and reveal them all at once.

"No Effect" Event Handling. Events other than Snowstorms only apply when drawn by a Prospector. If you draw any of these during this phase, they have no effect. Place them face up at the bottom of the deck and **draw new cards to replace them.** Consider all of the cards you draw in the replacement process new cards that are not dismissed by any snowstorm that should happen to appear.

Snowstorm Handling. When a snowstorm appears, or if one appeared earlier in the turn, follow its instructions. Upon the **first** snowstorm of a turn **only**, gather up – only in this phase – all of the upcards that were present before you drew the new cards and place them face up at the bottom of the deck.

Snowstorm Effects. When a snowstorm appears, snow conditions apply **for the entire next turn.** Place a snowstorm card near the map as a reminder. When the snow turn is

If you manage to join your networks together, you may prospect one of the bases as another location for income purposes.

Markets. Deliveries to each base map go to a different market. Indicate the prices at these markets with cubes of two different colors in each commodity track. Place one color on the left side, the other on the right. Place a matching cube on each base map to indicate which color goes with which base map.

The die roll for market changes affects both markets. Events also affect both markets.

Victory. There are no declarations. Instead, play a full twelve turns. The player who has the most money at the end of this wins, with the usual tiebreaker.

Alternate Layouts

The provided layouts are just some ways to set up the game. Players should feel free to try out other arrangements. You might have one player in each of the four cardinal directions, for example. Or, if you want even more contention, have just two bases at opposite ends of the map and let two players start at each of them. In a two player situation, you might have one player design a map with two bases and the other choose one. You could even deal out the modules and allow players to build up the map one-by-one communally and then auction off starting positions out of the players' starting Cu.

PLAYER NOTES

Initially, diagnose your geographic situation. Initially you need to secure a stable income. Unless you can get to a productive mine very soon, study how far you need to survey to get a passenger route going. If this is more than 4-5 segments, put some emphasis on securing a second surveyor.

A second agent can be useful, especially on those turns when you're also securing passenger routes.

Often less emphasized, but actually more important are transports. Make sure that when it's time to sell you have the ability to get everything to the market. On the other hand, do not buy the biggest transports immediately; try to control costs by building up to them.

In terms of mine types, rubies are by far the most rare, at least in the four-player setting. This means that even though they're not as valuable as diamonds, you can usually sell them for top prices; your eye seek red whenever it appears among the mines. Diamonds and silver are about half as rare and should be the second priority.

Always keep an eye too on your neighbors, especially when using the paper clip rule, which is strongly recommended. With this ability they may suddenly be a lot more in your hair than you expect.

If you have started passenger routes early and they are going well, you may consider additional surveyors and go for a strong, regular income approach as opposed to the vagaries of mine production, though you want to do some mining as well. In taking this approach don't neglect the ability to clear snow.

During the end game it's much less about selling at the top of the market and more about getting everything unloaded. Only in the rare event of a tie do goods on mines count. Try to have all four of your possible transports working and of sufficient power. On plenty of occasions the player who mined the most loses by failing to get goods to market. Keep in mind that a snowstorm can upset the best

laid plans at any time.

In the Advanced Scenario, from the start try to envision how you can best link up your two networks. If you can, having a choice of markets can yield considerably more profit as well as flexibility in surveying and transports.

It's a strategic game in the senses of deciding the area of the board to focus on and the mix of passenger vs. mining efforts, but a tactical /risk management one in terms of picking up items and timing your sales. Regarding the latter, think not only of the maximum price, but about who else can ruin it, or be ruined if you sell, as well as how far off the end of the game might be.

SOLITAIRE RULES

The solitaire rules employ one or more virtual players that operate as the following rules specify. Choose the number of opponents you want and set up and play the game as usual. Decide the activities of the virtual players using the following rules.

These rules sometimes require determination of the mine having the most value. Calculate this by multiplying the number of items on the mine by the highest potential Market price for that item type.

When using these rules, the most important first question is the **number of Cu the virtual player currently has**.

If the player begins the turn with 40 Cu or less and no Passenger Route or if any player has declared, the virtual player uses the following rules up to "OTHERWISE".

Prospecting Rules:

1. If qualified for a **Passenger route**, prospect it and if not holding enough money to perform all desired tasks, make this the highest priority.

2. Prospect **mines within 5 segments** of current track. More valuable commodities have precedence over lesser ones. Closer mines of the same type have precedence over further ones. Equally close mines with fewer snow routes are preferred.
3. If Agents remain and having fewer than two, prospect a **Dwarf Agent**. If more than one available, choose one not claimed by another player. Otherwise choose the most valuable available.
4. If Agents remain and having fewer than two Transports, prospect a **Transport**. If more than one available, choose one not claimed by another player. Otherwise choose the most valuable available.
5. If Agents remain and having fewer than two Surveyors, prospect an **Elf Surveyor**. If more than one available, choose one not claimed by another player. Otherwise choose the most valuable available.
6. Place any remaining Agents on the **top of the deck** to draw a random card. The player can acquire such cards based on the above rules. When deploying multiple agents of varying values, the best agent is deployed on a mine already claimed by another player, the tiebreaker being that the further away from the player's starting location, the better the agent.

Surveying Rules:

1. Build using the most direct route to complete the **passenger route** requiring the fewest segments to complete so long as it requires 5 segments or less.
2. If surveyors remain, build using the

most direct route toward the **owned unconnected mine** having the most value.

If the paper clip is unused and using the paper clip to create a new track can shorten the distance to the mine by 3 segments or more and that mine has diamonds or rubies, use the paper clip to create a new track.

3. If surveyors remain, build using the most direct route toward the **most valuable unconnected mine** being prospected that turn.
4. If surveyors remain and it's possible to build consecutively to achieve one of the above goals, attempt to build consecutively, with priority as above.
5. Any remaining surveyors remain idle. When deploying multiple surveyors of varying values, the best surveyor is deployed on a segment already claimed by another player, the tiebreaker being that the further away from the player's starting location, the better the surveyor. Note that when surveying, if the player is out of cubes, he removes cubes as necessary from tracks connected to mines which no longer serve any purpose because a previously connected mine is no longer owned and the track does not participate in any passenger route.

Bidding Rules:

1. Roll a die. The result plus the minimum bid is the maximum bid.

Pay Prospecting, Survey and Operating

Expenses Rules:

2. Pay all such expenses, but save enough to ensure connecting to the most valuable currently owned mine. If unable to do so, drop items in the following order:
 - a. Agents
 - b. Surveyors

- c. Transport
- d. Prospecting unconnected mines
- e. Operating unconnected mines
- f. Prospecting connected mines
- g. Operating connected mines
- h. Operating connected mines of lower value
- i. Operating connected mines only reachable over snow routes
- j. Operating connected mines chosen randomly
- k. Prospecting a passenger route

Make Deals Rules:

1. In a two-player game the player never makes deals.
2. If there are more than two players, the player will make a deal if the other player has the same declaration status he has. (Two players have the same declaration status if neither has declared 400 Cu, or if both have.) The only type of deal the player will make is to ship goods for a player owning a mine to which the player is not connected.

Ship Goods and Clear Snow Rules:

1. If holding any items whose price is currently at its highest value or if current funds total 10 Cu or less or if another player is already shipping a commodity and its price is in the top three rungs, ship as many of them as possible. Higher priced items have precedence over lower. Use the least powerful transport to clear snow for the most valuable shipment if it will otherwise not ship.
2. If transport capability remains, transship from one mine to another. If one mine is reached via a snow route and the other is not, ship as much as

possible from the former to the latter. More valuable commodities have precedence over less valuable ones.

OTHERWISE:

Prospecting Rules:

1. Prospect **mines within 4 segments** of current track. More valuable commodities have precedence over lesser ones. Closer mines of the same type have precedence over further ones. Equally close mines with fewer snow routes are preferred.
2. If qualified for a **Passenger route**, prospect it.
3. If Agents remain and having fewer than two, prospect a **Dwarf Agent**. If more than one available, choose one not claimed by another player. Otherwise choose the least valuable available.
4. If Agents remain and having fewer than four Transports, prospect a **Transport**. If more than one available, choose one not claimed by another player. Otherwise choose the least valuable available.
5. If Agents remain and having fewer than three Surveyors, prospect an **Elf Surveyor**. If more than one available, choose one not claimed by another player. Otherwise choose the most valuable available.
6. Place any remaining Agents on the **top of the deck** to draw a random card. The player can acquire such cards based on the above rules.

When deploying multiple agents of varying values, deploy the best agent on a mine already claimed by another player, the tiebreaker being that the further away from the player's starting location, the better the agent.

Surveying Rules

1. Build using the most direct route toward

the **owned unconnected mine having the most value** where value is calculated by multiplying the number of items on the mine by the highest potential price for that item type. If the paper clip is unused and using the paper clip to create a new track can shorten the distance to the mine by 3 segments or more and that mine has diamonds or rubies, use the paper clip to create a new track.

2. If surveyors remain, build using the most direct route toward the **most valuable unconnected mine** being prospected that turn.
3. If surveyors remain, build using the most direct route to complete the **passenger route** requiring the fewest segments to complete so long as it requires 5 segments or less.
4. If surveyors remain and it's possible to build consecutively to achieve one of the above goals, attempt to build consecutively, with priority as above.
5. Any remaining surveyors remain idle.
6. If surveyors remain and it's possible to build consecutively to achieve one of the above goals, attempt to build consecutively, with priority as above. Note that when surveying, if the player is out of cubes, he removes cubes as necessary from tracks connected to mines that no longer serve any purpose because a previously connected mine is no longer owned and the track does not participate in any passenger route.

Bidding Rules:

1. Roll two die. The result plus the minimum bid is the maximum bid.

Pay Prospect and Survey Expenses Rules

2. Pay all such expenses. If unable to do

so, drop items in the following order:

- a. Prospecting a passenger route
- b. Operating connected mines chosen randomly
- c. Operating connected mines only reachable over snow routes
- d. Operating connected mines of lower value
- e. Operating connected mines
- f. Prospecting connected mines
- g. Operating unconnected mines
- h. Prospecting unconnected mines
- i. Transport
- j. Surveyors
- k. Agents

Pay Operating Expenses Rules

1. Pay all such expenses.
2. If unable to do so, mines which are connected to the player's track have precedence.
3. Among these, the more valuable commodities have precedence.
4. Among these, mines not requiring a snow route have precedence.
5. Among these, choose randomly.

Make Deals Rules

1. In a two-player game the player never makes deals.
2. If there are more than two players, the player will make a deal if the other player has the same declaration status he has. The only type of deal the player will make is to ship goods for a player owning a mine to which the player is not connected.

Ship Goods and Clear Snow Rules

1. If holding any items whose price is currently at its highest value, or if another player is already shipping a commodity and its price is in the top three rungs, or this is one of the last three turns of the game, ship as many of them as possible.

Higher priced items have precedence over lower. Use the least powerful transport to clear snow for the most valuable shipment if it will otherwise not ship.

2. If transport capability remains, transship from one mine to another. If one mine is reached via a snow route and the other is not, ship as much as possible from the former to the latter. More valuable commodities have precedence over less valuable ones.

CREDITS

Playtesters (alphabetical): Jeff DiCorpo, Gordon Hua, YiTing Jin, Andrew Martin, Aaron Schneider, Eveleen Tang, Ken Tidwell. All deserve a first class ticket.

Game design by Rick Heli, 2017.

This version made July 16, 2017.

For more information about this and other games, please visit upandawaygames.com



Many thanks to Werlioka for the wonderful dwarf artwork!